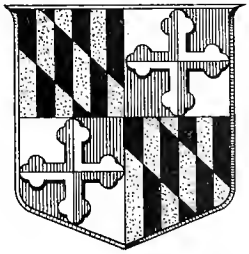
# ECONOMIC STVDIES of MARYLAND

## PARTS V AND VI




• MARYLAND •
• STATE • PLANNING • COMMISSION •

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MARYLAND STATE PLANNING COMMISSION

Publication No. 29

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Francis D. Friedlein, Executive Secretary

# E C O N O M I C  S T U D I E S

# O F

# M A R Y L A N D

- - - -

## PARTS V & VI

by

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ECONOMIC STUDIES OF MARYLAND

PARTS V AND VI

INTRODUCTORY STATEMENT

In Part I of the Economic Studies of Maryland the Commission announced its intention to publish a series of articles relating to the continuing economic survey which was adopted as a part of its planning activities.

Three publications have previously been released under the title "Economic Studies of Maryland." The first of these, Parts I and II, presented an outline of the Survey and a Base Pattern of Maryland's Economy as of 1930. The second publication, Part III, presented statistical data indicative of industrial changes during a sixty year period prior to 1930 and a seven year period subsequent to 1930. The third publication, Part IV, presented interpretations and diagnoses of the statistical data of Part III and the changes indicated by these data.

This, the fourth publication, Parts V and VI, presents statistical data relating to changes in the agricultural pattern and interpretations and diagnoses of these data.

As would be expected, Maryland's agricultural pattern changed considerably less than the State's industrial pattern. Such changes as did occur, however, were as important in the agricultural economy as were some of the industrial changes in the industrial economy.

Population Changes:

In the 1870-1930 period, population changes varied widely between the agricultural sections of our Base Pattern. This variation was due principally to the influence of industrial developments in some of the agricultural sections and to an increase in suburban residence in agricultural sections adjacent to industrial sections. Due to these influences no interpretation of population changes in the agricultural

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sections would be complete without relating population changes in the agricultural sections to those in the State as a whole and those in the industrial sections.

An examination of the exhibits of Part V, relating to population changes in Maryland's economic sections, shows how greatly the distribution of population in the State has been influenced by the concentration of industries in the industrial sections.

Except for several sections, in which population increase was influenced by industrial developments within the section or by surburban residence increase, the Rural Agricultural Sections of Maryland gained very little in population in the sixty year period from 1870 to 1930, and the population gain of these sections collectively accounted for only 11.4% of the State's total population gain for the period. Several sections, in which agriculture is most predominant occupationally, lost population following 1910.

In 1930 the Rural Agricultural Seetions collectively had 12.8% less colored population than they had in 1870. Most of the loss occurred following 1900. Contrasted with this loss of colored population in the Rural Agricultural Sections, there was a large gain in colored population in the State's Industrial Sections collectively and particularly in Baltimore City.

With few exceptions, there has been little manufacturing development in agricultural sections of Maryland, such development being increasingly concentrated in a relatively small part of the State's area covered by the three Urban Sections and the three Rural Industrial Sections of our Base Pattern. This concentration of manufacturing has been most pronounced in the Baltimore Industrial Area. The effect of this industry concentration on distribution of population in the economic sections of Maryland has been

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shown quantitatively in the statistics of Part V relating to population changes.

The changes in distribution of population in the State during the 1870-1930 period indicate a continuous movement of people from agricultural to industrial sections of the State. This movement has been most pronounced from sections depending most on agriculture as an occupational pursuit. These sections showed very small total population gains during the period and lost considerable of their colored population.

The migration of farm labor, particularly of colored farm labor, to industrial sections has had definite repercussions on farm labor supply and farm wages. Mechanization of farm operations was no doubt stimulated by shortage of cheap farm labor which resulted, in many cases, in mechanization to an extent not otherwise economically justified.

Farm Tenure:

The large increase in tenant operation of the Nation's farms since 1900 has been a matter of considerable concern to Federal and State agricultural departments. As contrasted with a considerable increase in the number of farms and farm acreage operated by tenants in the United States as a whole, there has been a substantial decline in tenant operated farms and farm acreage in Maryland since 1900.

The percentage of total farm acreage under tenant operation varies widely between the economic sections of the State. In 1935 about one third of the State's total farm acreage was under tenant operation and the acreage in different sections varied from 14.5% to 52.9%.

Since farm tenancy has definite influences on the agricultural economy in connection with farm improvements, land use and soil conservation, a further reduction in the tenant operation of farms would be beneficial in some of Maryland's Agricultural Sections where the percentage is still high.

Value of Farm Real Estate:

The data relating to value of all Farm Lands and Buildings indicate greater stability of farm real estate values in Maryland than in the nation as a whole during the 1900-'35 period. Farm real estate values in Maryland did not undergo as much inflation during the 1900-'20 period and did not decline as much as national values in the 1920-'35 period.

Value of Farm Implements and Machinery:

In the 1900-'30 period, the value of farm implements and machinery increased very rapidly, reaching a maximum in 1920 and declining slightly in 1920-'30 decade. The national increase, per average farm, was $394.3 and the Maryland increase was $417.6. These large increases reflect the adoption of modern and motorized farm machinery and implements. The effect of motorized equipment on farm draft animals became apparent only after 1920 when the number of these animals declined about 20%.

Among the many factors which influence the cost of farming, the more important are:

1. Investment in Farm Real Estate.
2. Investment in Farm Implements, Machinery, and Live Stock.
3. Expenditures for Farm Labor.
4. Mortgage Debt (interest).
5. Taxes.

Substantial increases in all of these factors are indicated by the agricultural study.

The large increase in mortgage debt indicates that farmers did not take advantage of better returns from farming in prosperous times to reduce their mortgage debt, but expanded their investment in lands and equipment on borrowed funds. Mortgage debt per acre, on full owner operated farms in both the United States and Maryland, doubled in the period from 1910 to 1930. In

the 1920-'30 decade, mortgage debt increased while farm values declined. This resulted in an increased ratio of mortgage debt to value and a decline in farmers' equities.

In the 1913-'30 period, average farm real estate taxes per acre increased 33¢ in the United States and 55¢ in Maryland. Maryland's greater increase, was mostly due to increased revenues required to meet interest and amortization charges on greatly increased bonded indebtedness, the greater part of which resulted from extensive improvements in schools and highways.

Both average mortgage debt and average taxes per acre were considerably higher in Maryland than in the United States as a whole. Cash farm income per acre data for the 1924-'38 period indicate that higher average interest costs on farm mortgage debt and higher taxes in Maryland were compensated for by higher cash farm income.

Changes In Types of Farming:

Examination of data relating to live stock, live stock products and important crops shows considerable change in the State's important farm products in recent years. In the aggregate these changes indicate increased production of farm products which move direct to consumer, such as poultry and eggs, dairy products, and green vegetables.

Production of the principal cash grain crops, which move largely to out of State markets, has declined. Barley, mostly used for cattle feeding, was the only grain which increased in production.

The industrial growth of Maryland and resultant population increases in the State's industrial sections has contributed greatly to an increased local demand for a diversity of farm products and particularly for direct to consumer products to the production of which the diverse soils of the State are well adapted.

The only type of farming which has declined greatly in Maryland in the face of increased demand is fruit gowing, particularly tree fruits.

This decline has probably been due to increased costs of labor, increased cost of combating tree diseases and insect pests, and to competition from other fruit growing sections where conditions and facilities are more favorable.

Improved refrigerated transportation facilities bring farm products from states south of Maryland to the Gulf coast into competition with those from Maryland. Lower labor costs, earlier ripening seasons, number of crops produced in the year and lower land values in these states make for lower cost of production.

To determine the competitive position of Maryland's farm products, which move largely into the same markets as those from southern states, would require a detailed study of all farming cost factors in the competing states. Such a study was beyond the scope of the present survey.

The continuing expansion of manufacturing and increase of consumer population in Maryland's Industrial Sections should be of future benefit to the State's Agricultural Sections.

The agricultural economy would be greatly improved by a further increase in owner operation of farms and better farm management directed to more efficient use of mechanized farm equipment, better land use and soil conservation and improvement.

Some of the agricultural sections, now dependent almost entirely on agriculture for productive employment, would be benefited by the development of some manufacturing industries in these sections to provide additional employment and income earning opportunities. The beneficial influence of such development is evident in the several sections where it has occurred.

Abel Wolman

Chairman
Maryland State Planning Commission

## ACKNOWLEDGMENTS

Grateful acknowledgment is made to:

The Department of Political Philosophy and the Social Sciences, Graduate School, Fordham University;

The National Resources Planning Board;

The Work Projects Administration;

The United States Bureau of the Census;

The United States Department of Agriculture, Bureau of Agricultural Economics;

The University of Maryland, Agricultural Extension Service;

for material and personnel used in the preparation of PARTS V and VI.

ECONOMIC STUDIES OF MARYLAND

PARTS V AND VI

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CONTENTS

# ECONOMIC STUDIES OF MARYLAND

## PARTS V AND VI

## INTRODUCTION

Previous to this ussue of Parts V and VI, the Commission has released three publications relating to the Economic Studies of Maryland. These were:

Economic Studies of Maryland - Parts I and II
Economic Studies of Maryland - Part III
Economic Studies of Maryland - Part IV

In Part II, pages 6 to 18 inclusive, we described the method of sectionalizing the State and constructing our Base Pattern as of the year 1930. In this procedure eighteen counties of the State were classified as agricultural and grouped in five Rural Agricultural Sections. These sections and the counties comprising them were shown on a sectional map of Maryland which is reproduced, for the readers convenience, as Exhibit 1 in Part V. Exhibit 32, Page 135 of Part II relating to soil types, growing seasons and predominant types of farming has been reproduced in Part V as Exhibit 2.

Since the Rural Industrial and Rural Agricultural Sections are repeatedly referred to in Parts V and VI by symbol only, a tabulation showing these sections and the counties comprising them has been presented, for the readers further convenience, as Exhibit 23 at the end of Part VI; arranged to fold outside of the report for ready reference.

Exhibits 27 to 31 inclusive, on pages 130 to 134 inclusive of Part II, showed the economic patterns of the five Rural Agricultural Sections of the State and Counties comprising these sections, as depicted by occupational pursuits and predominant types of farming. A knowledge of the matter presented in these references are essential to a proper understanding of Parts V and VI.

Distribution Of The Types Of Farming:

In Part II, industry distribution maps showing the distribution of

the State's predominant industries in counties and economic sections of the State, were presented. Similar maps showing distribution of predominant types of farming have been prepared and are presented as Exhibits 3 to 9 inclusive in Part V. As is well known, a type of farming as defined by the Census Bureau, is not confined to the counties or sections indicated in the distribution maps but occurs, for many types, on every farm in the State. It may be considerable in extent in some counties but still not assume predominant importance from the standpoint of product value as compared to other types.

Exhibits 1 to 9 inclusive, presented in Part V, do not relate to changes in the Agricultural Pattern. Exhibits 1 and 2 are reproductions of exhibits presented in Part II and Exhibits 3 to 9 inclusive are supplementary to the Base Pattern data presented in Part II for agriculture.

The balance of the exhibits in Part V are devoted to statistical data relating to changes of significance in the agricultural pattern of the State and its agricultural sections such as changes in population and rate of population change; in farm tenure; in value of farm lands and buildings; in farm mechanization as indicated by changes in value of farm implements and machinery; in horses and mules on farms and expenditures for farm labor; in production of specified crops; and in financial factors such as taxes, mortgages, cash farm income; etc.

Except where otherwise specified these data are from the Bureau of the Census statistics.

Part VI is devoted to two objectives:

1. Interpretations of the statistical material presented in Part V.

2. Relating the interpretations of agricultural changes to interpretations of industrial changes which were presented in Part IV and summarized in Chapter 8 of Part IV, for the purpose of showing how industrial developments in the State have influenced agriculture.

# ECONOMIC STUDIES OF MARYLAND

## PART V

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Part V has been confined to the presentation of exhibits relating to the agricultural pattern of the State and statistical data relating to changes in this pattern in a period prior to 1930 and in subsequent years. Exhibits 1 to 9 inclusive relate to the agricultural pattern and the remaining exhibits to changes in the pattern.

In selecting the statistical data for these exhibits it was not our intention to make any exhaustive study of agriculture but to confine ourselves to such statistics as indicated significant changes in the agricultural pattern and influences contributing to these observed changes.

EXHIBIT - I

ECONOMIC STUDIES OF MARYLAND

PART V

# ECONOMIC SECTIONS OF MARYLAND

Distribution by Counties in Maryland

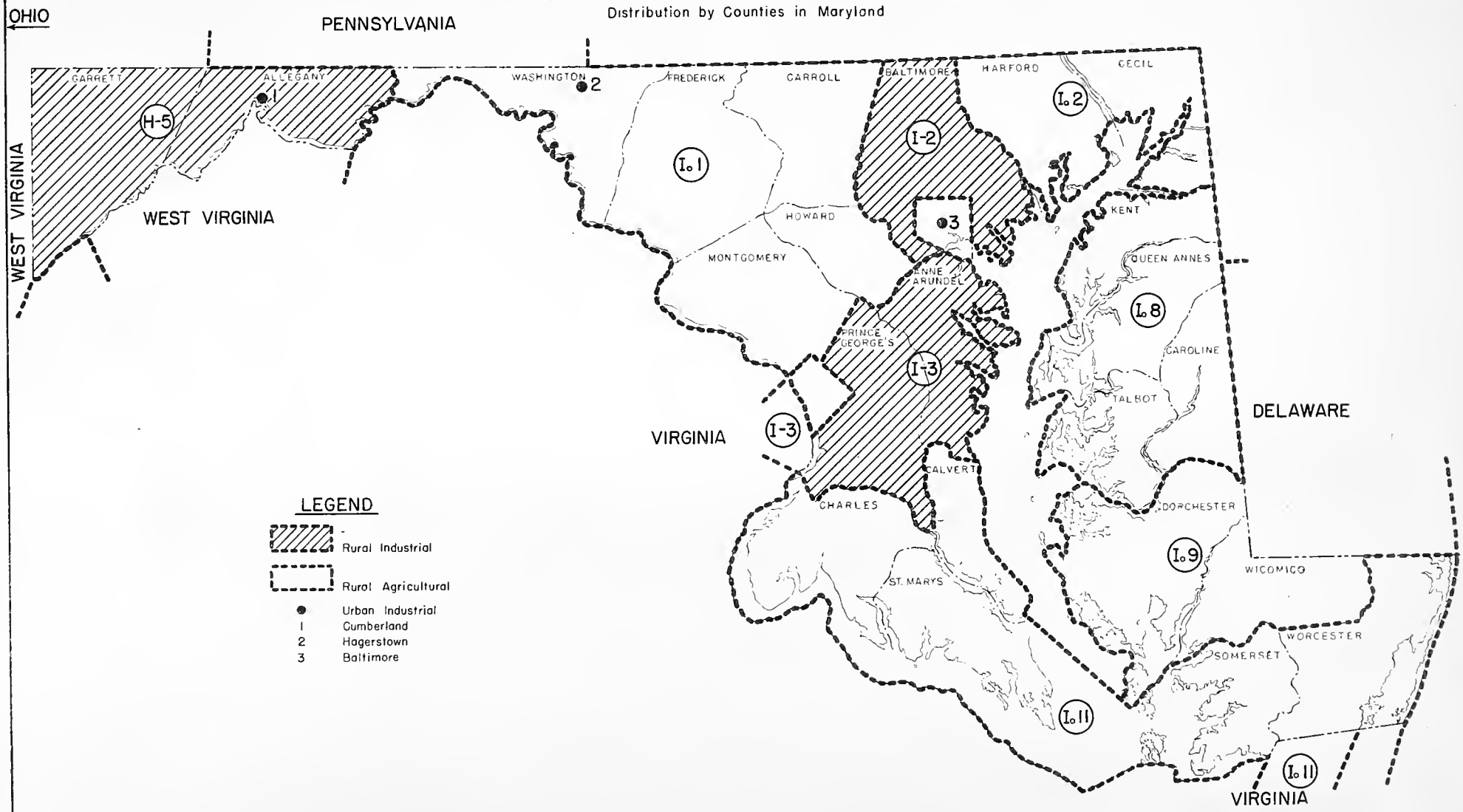


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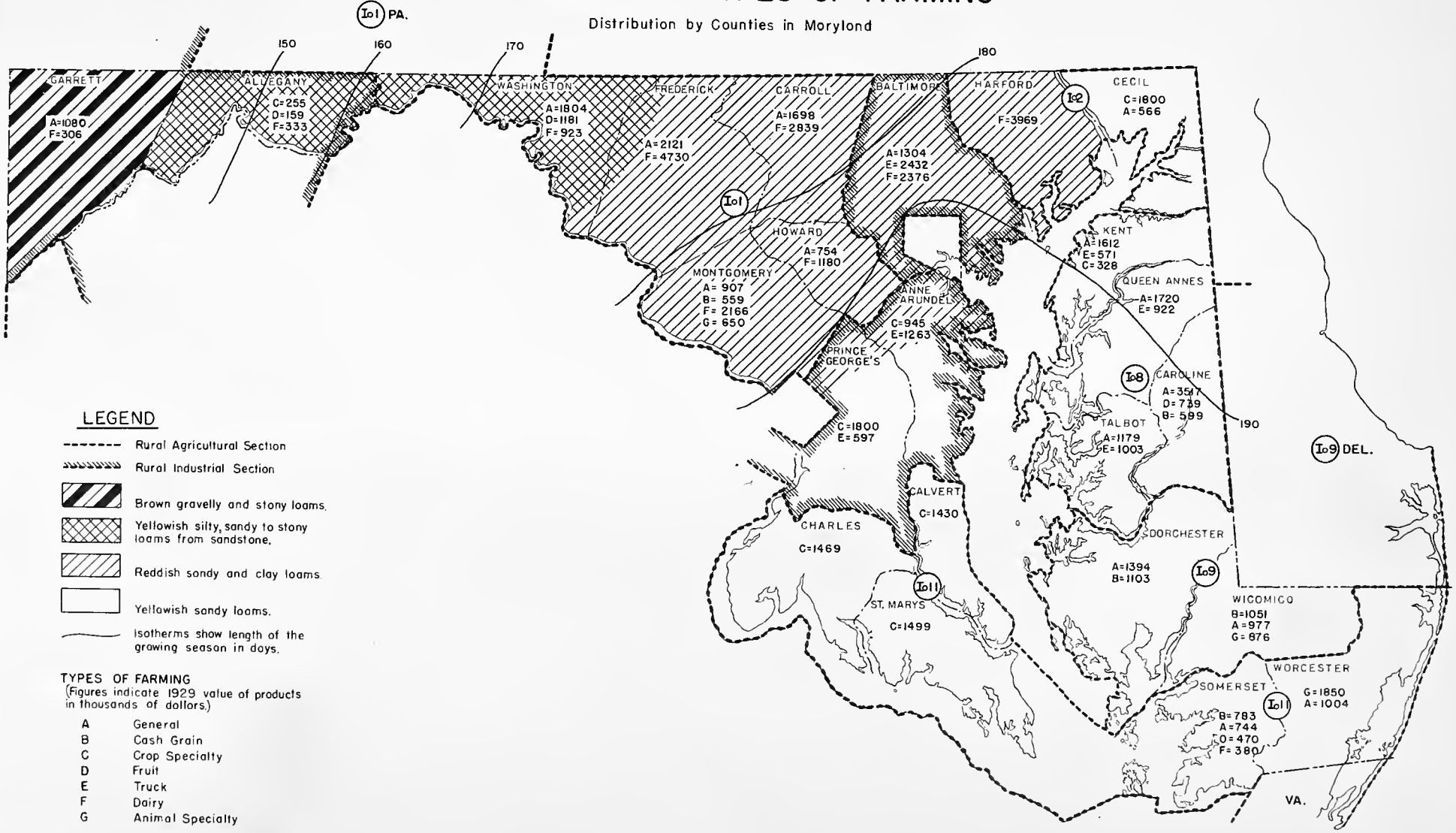
EXHIBIT - 2

ECONOMIC STUDIES OF MARYLAND
PART V

# PREDOMINANT TYPES OF FARMING

Distribution by Counties in Maryland




MARYLAND STATE PLANNING COMMISSION

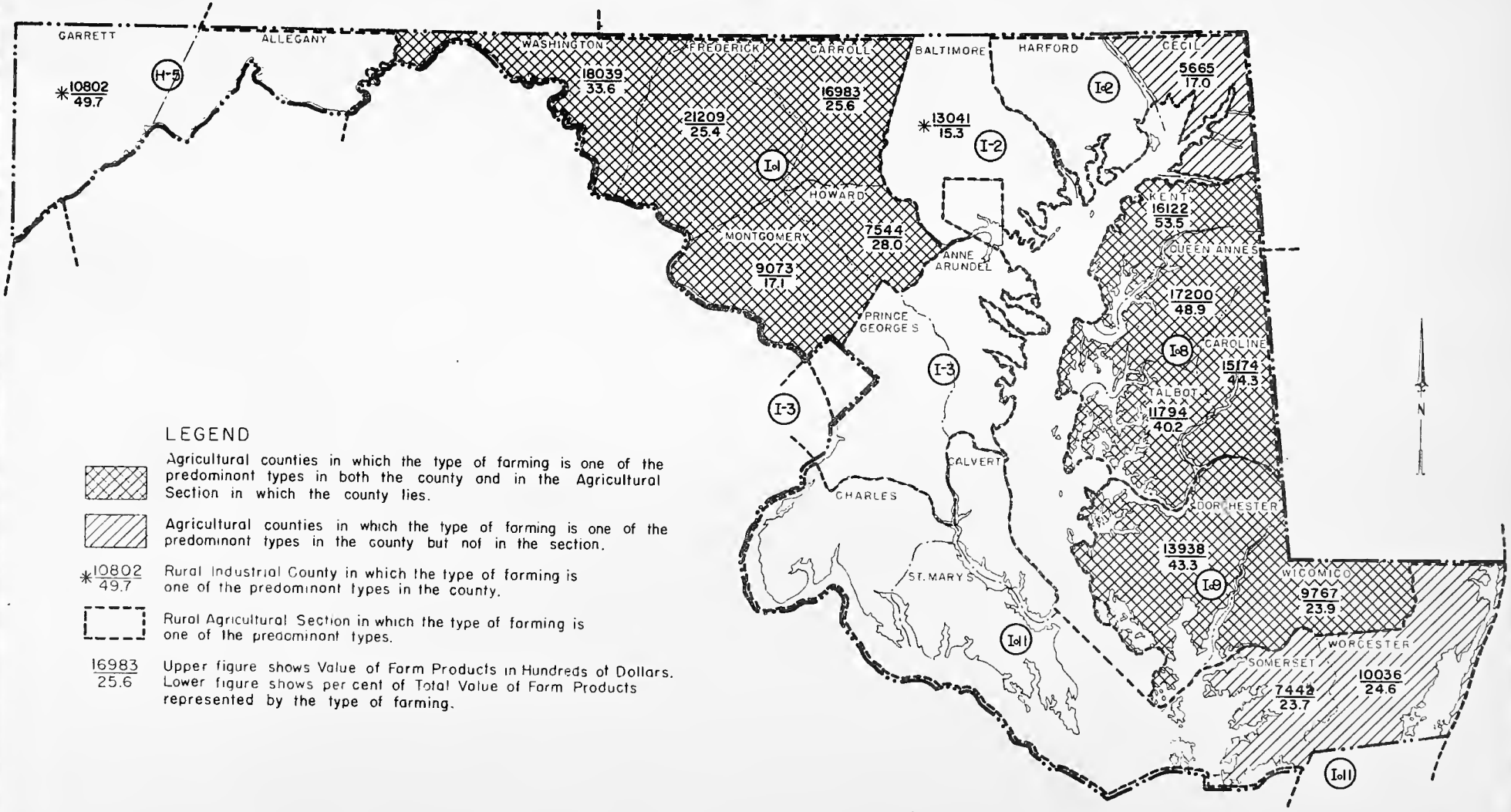
EXHIBIT - 3

ECONOMIC STUDIES OF MARYLAND

PART V

# GENERAL FARMING

Distribution by Counties in Maryland in which General Farming is one of the Predominant Types of Farming.




LEGEND

Agricultural counties in which the type of farming is one of the predominant types in both the county and in the Agricultural Section in which the county lies.

Agricultural counties in which the type of farming is one of the predominant types in the county but not in the section.

*10802/49.7 Rural Industrial County in which the type of farming is one of the predominant types in the county.

Rural Agricultural Section in which the type of farming is one of the predominant types.

16983/25.6 Upper figure shows Value of Farm Products in Hundreds of Dollars. Lower figure shows per cent of Total Value of Farm Products represented by the type of farming.

MARYLAND STATE PLANNING COMMISSION

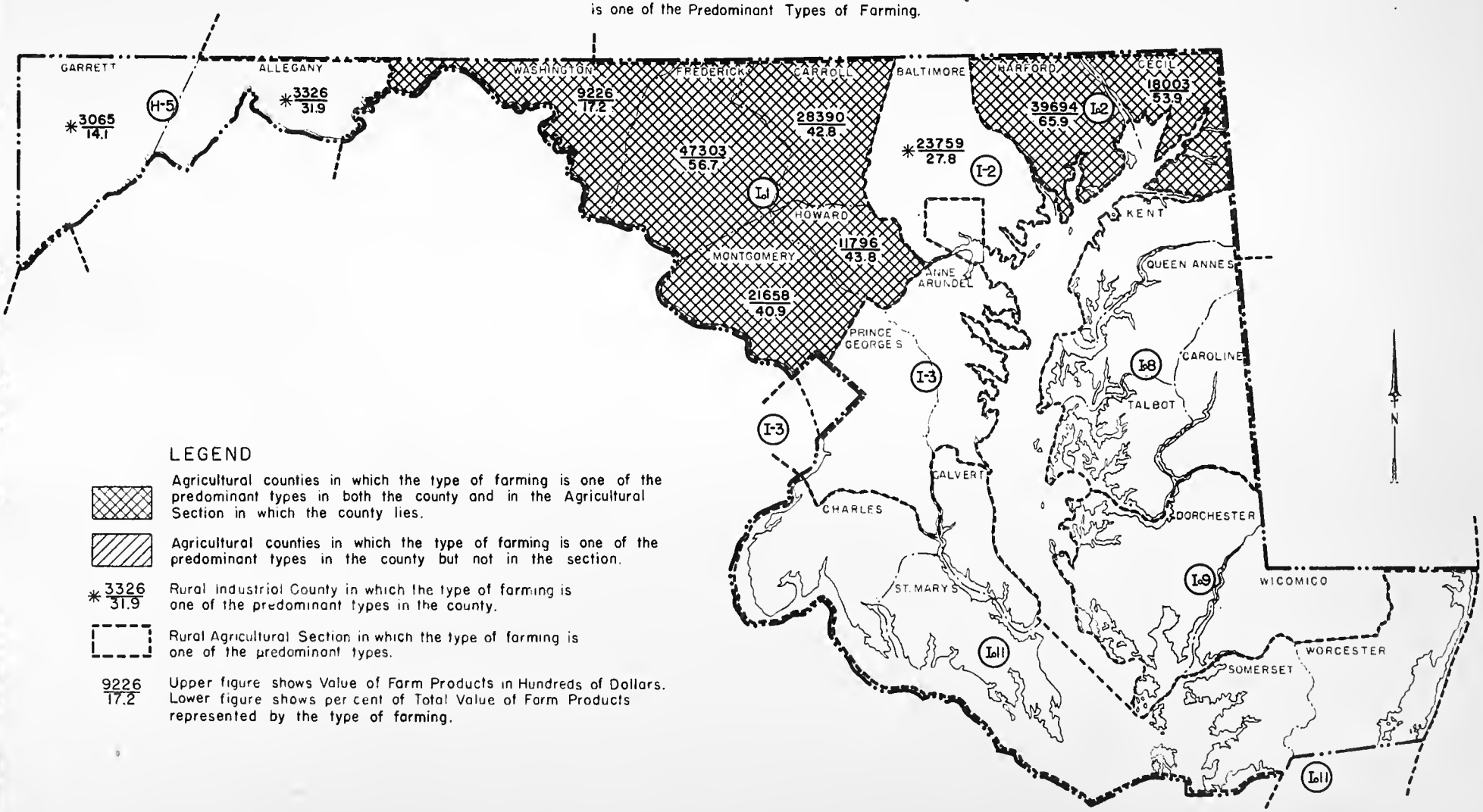
EXHIBIT - 4

ECONOMIC STUDIES OF MARYLAND

PART V

# DAIRY FARMING

Distribution by Counties in Maryland in which Dairy Forming is one of the Predominant Types of Farming.




MARYLAND STATE PLANNING COMMISSION

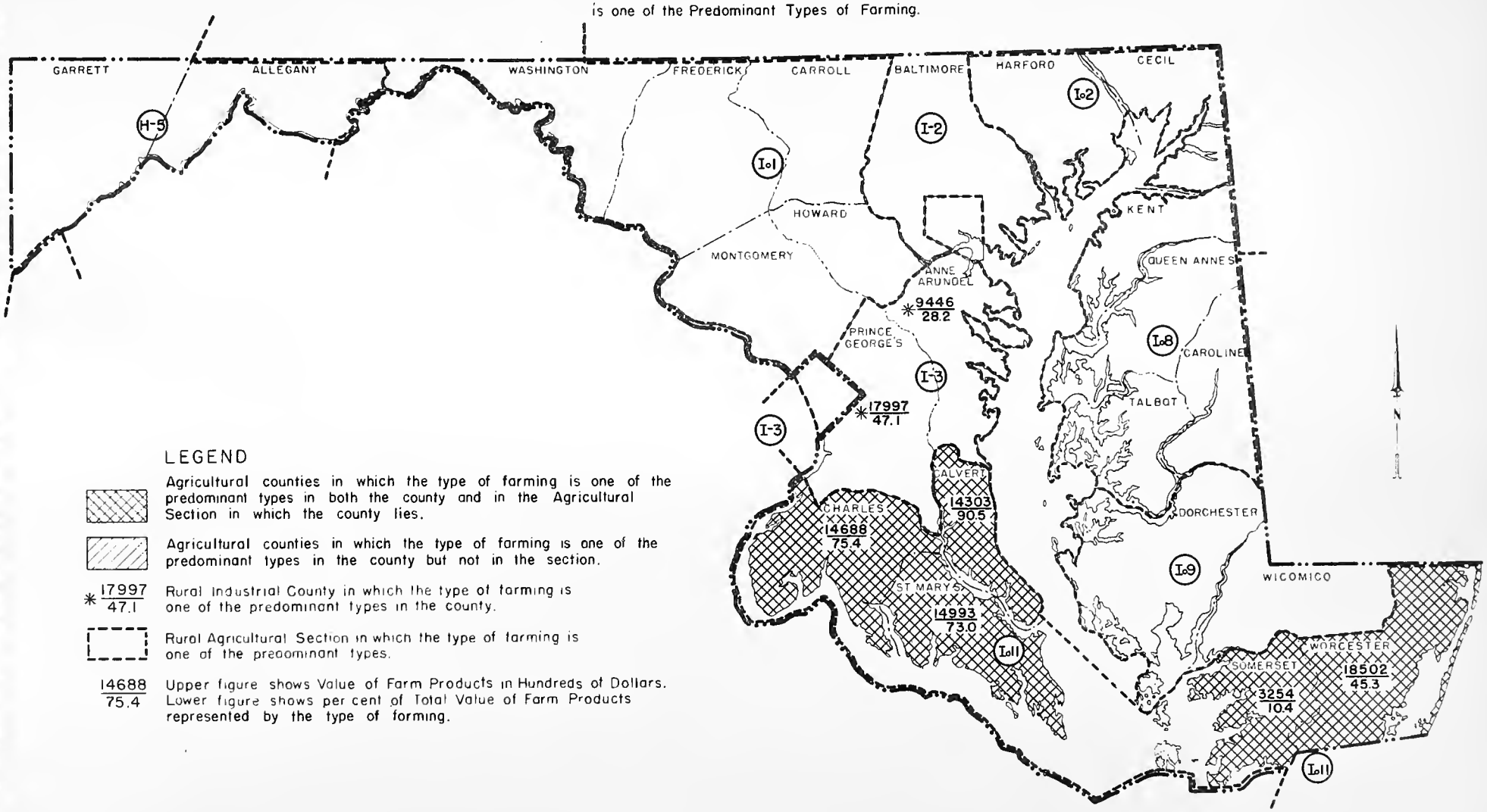
EXHIBIT - 5

ECONOMIC STUDIES OF MARYLAND

PART V

# CROP SPECIALTY FARMING

Distribution by Counties in Maryland in which Crop Specialty Farming is one of the Predominant Types of Farming.




LEGEND

Agricultural counties in which the type of farming is one of the predominant types in both the county and in the Agricultural Section in which the county lies.

Agricultural counties in which the type of farming is one of the predominant types in the county but not in the section.

* 17997 / 47.1 — Rural Industrial County in which the type of farming is one of the predominant types in the county.

Rural Agricultural Section in which the type of farming is one of the predominant types.

14688 / 75.4 — Upper figure shows Value of Farm Products in Hundreds of Dollars. Lower figure shows per cent of Total Value of Farm Products represented by the type of farming.

MARYLAND STATE PLANNING COMMISSION

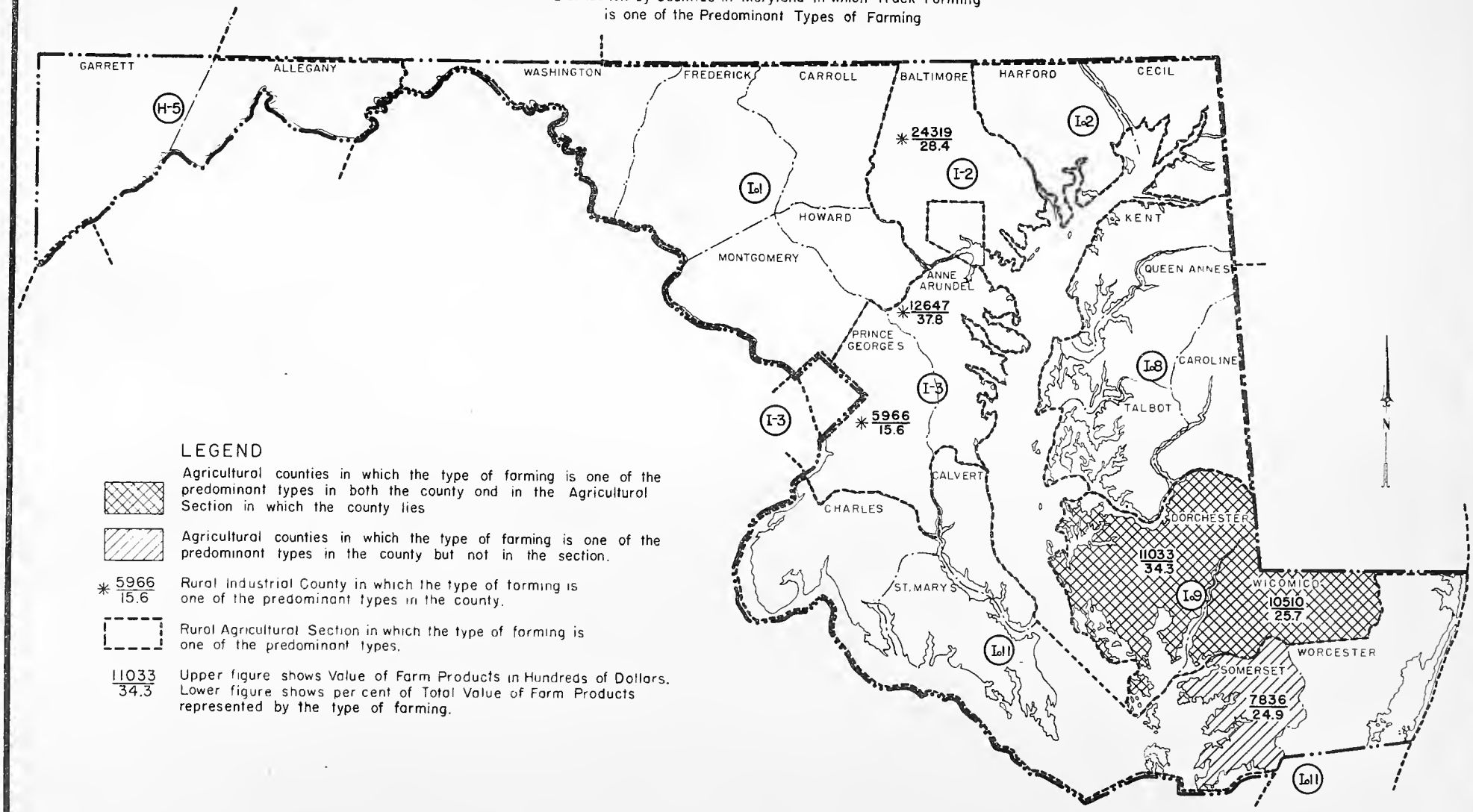
EXHIBIT - 6

ECONOMIC STUDIES OF MARYLAND

PART V

# TRUCK FARMING

Distribution by Counties in Maryland in which Truck Farming is one of the Predominant Types of Farming




LEGEND

Agricultural counties in which the type of farming is one of the predominant types in both the county and in the Agricultural Section in which the county lies

Agricultural counties in which the type of farming is one of the predominant types in the county but not in the section.

* 5966 / 15.6 — Rural Industrial County in which the type of farming is one of the predominant types in the county.

Rural Agricultural Section in which the type of farming is one of the predominant types.

11033 / 34.3 — Upper figure shows Value of Farm Products in Hundreds of Dollars. Lower figure shows per cent of Total Value of Farm Products represented by the type of farming.

MARYLAND STATE PLANNING COMMISSION

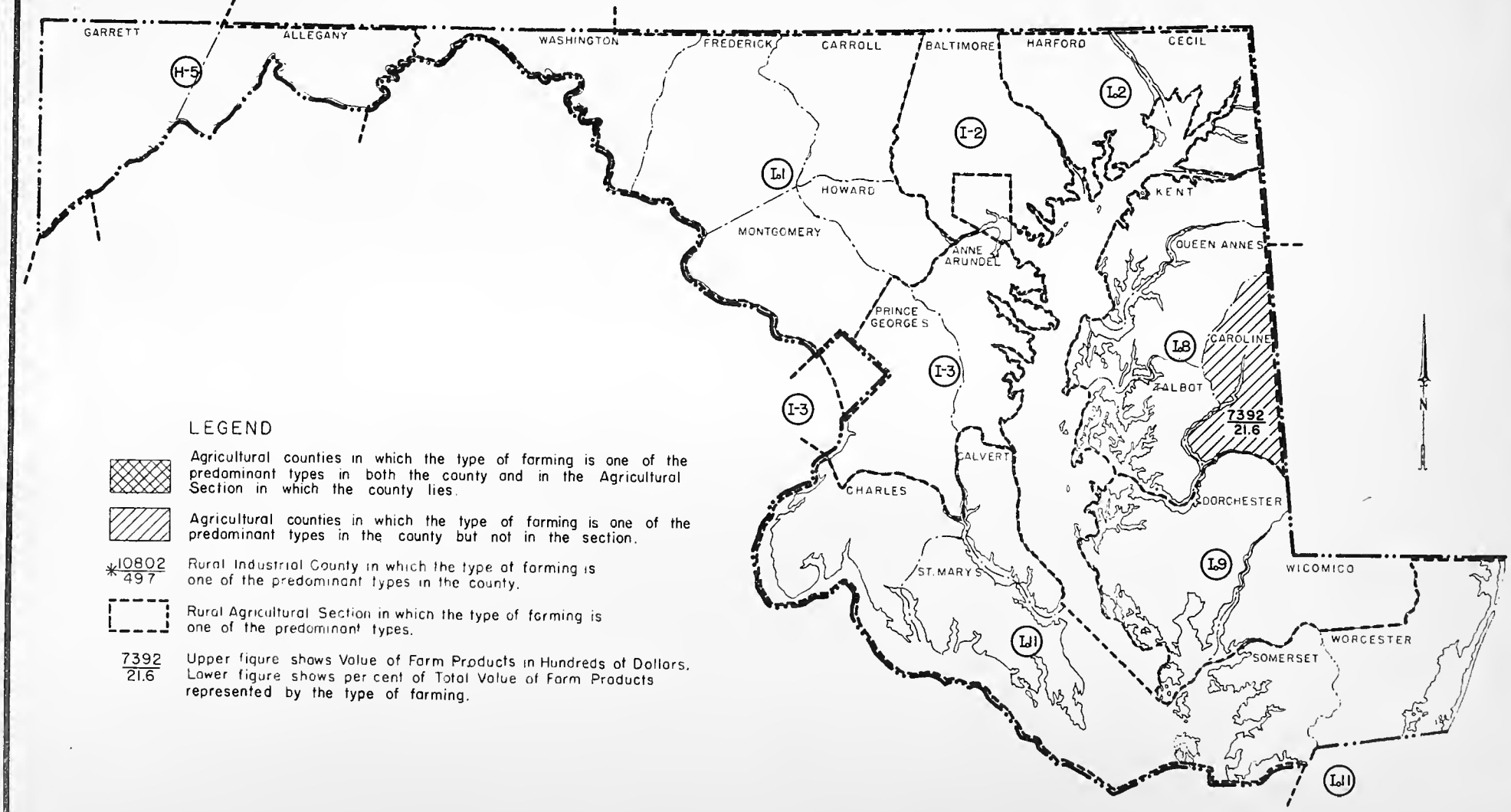
EXHIBIT - 7

ECONOMIC STUDIES OF MARYLAND

PART V

# POULTRY FARMING

Distribution by Counties in Maryland in which Poultry Farming is one of the Predominant Types of Farming.




LEGEND

Agricultural counties in which the type of farming is one of the predominant types in both the county and in the Agricultural Section in which the county lies.

Agricultural counties in which the type of farming is one of the predominant types in the county but not in the section.

*10802/497 Rural Industrial County in which the type of farming is one of the predominant types in the county.

Rural Agricultural Section in which the type of farming is one of the predominant types.

7392/21.6 Upper figure shows Value of Farm Products in Hundreds of Dollars. Lower figure shows per cent of Total Value of Farm Products represented by the type of farming.

MARYLAND STATE PLANNING COMMISSION

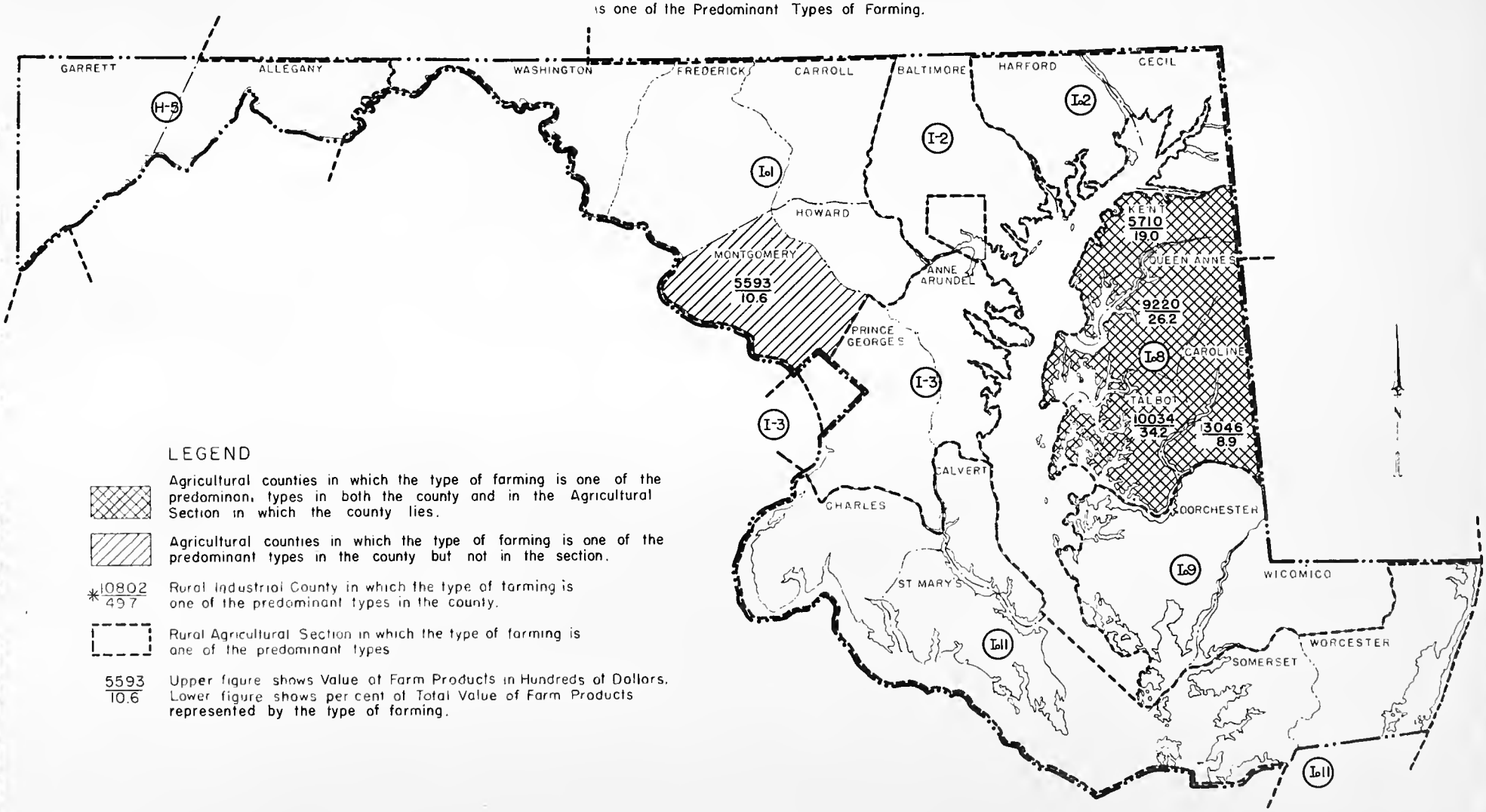
EXHIBIT - 8

ECONOMIC STUDIES OF MARYLAND

PART V

# CASH GRAIN FARMING

Distribution by Counties in Maryland in which Cash Grain Farming is one of the Predominant Types of Farming.




MARYLAND STATE PLANNING COMMISSION

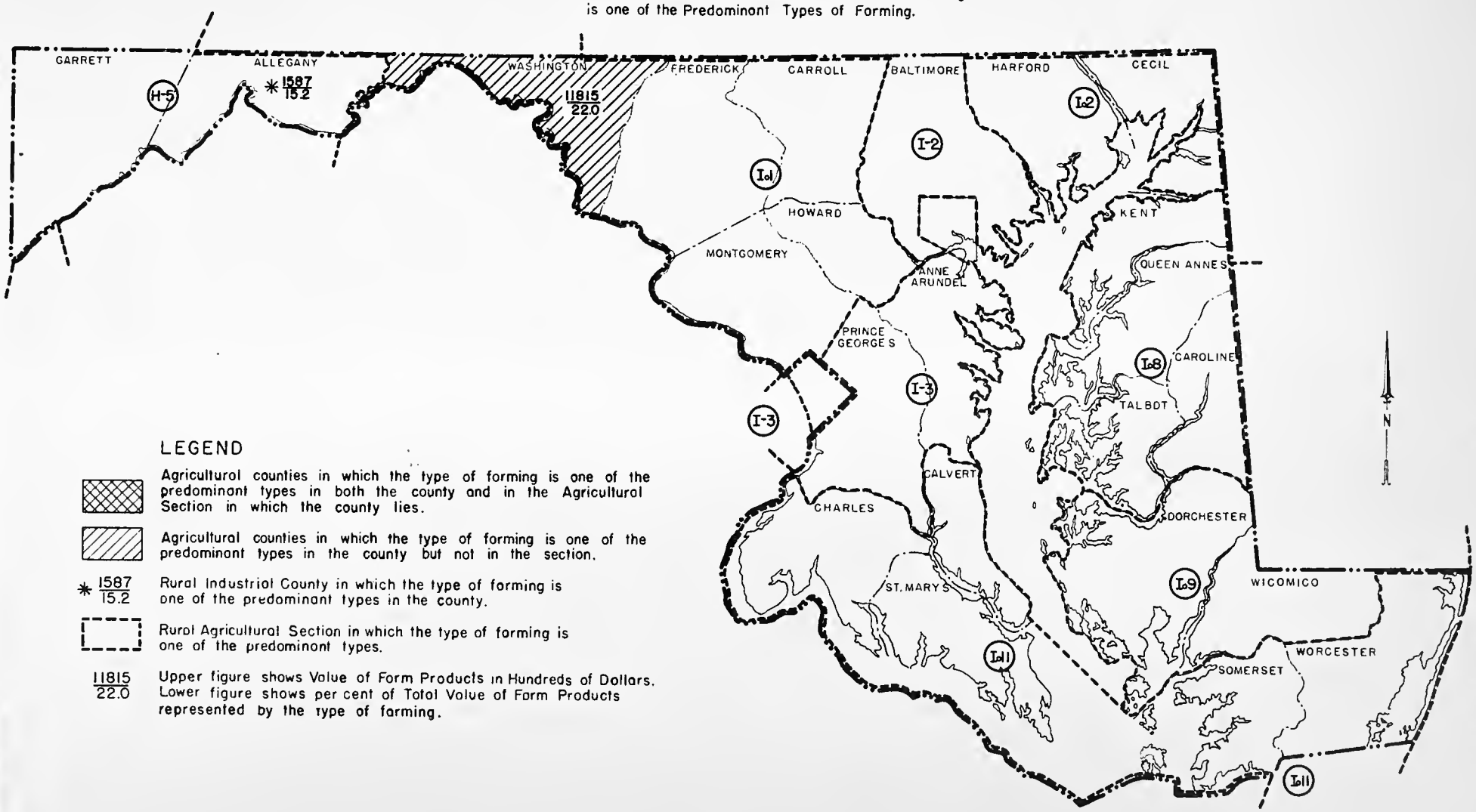
EXHIBIT - 9

ECONOMIC STUDIES OF MARYLAND

PART V

# FRUIT FARMING

Distribution by Counties in Maryland in which Fruit Farming is one of the Predominant Types of Farming.




MARYLAND STATE PLANNING COMMISSION

EXHIBIT 10

ECONOMIC STUDIES OF MARYLAND - PART V

POPULATION TRENDS AND RATES OF CHANGE IN THE STATE, IN THE INDUSTRIAL SECTIONS COLLECTIVELY AND IN THE RURAL AGRICULTURAL SECTIONS COLLECTIVELY

1870 to 1930

| | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 |
|---|---|---|---|---|---|---|---|
| **THE STATE** | | | | | | | |
| Trend Indexes (1870 = 100) | | | | | | | |
| Total Population | 100.0 | 119.7 | 133.5 | 152.1 | 165.9 | 185.6 | 208.9 |
| White " | 100.0 | 119.7 | 136.5 | 157.3 | 175.5 | 199.0 | 223.6 |
| Colored " | 100.0 | 119.9 | 123.1 | 134.3 | 132.7 | 139.6 | 158.1 |
| Decadal Rates of Change | | | | | | | |
| Total Population | | + 19.7 | + 11.5 | + 14.0 | + 9.0 | + 11.9 | + 12.5 |
| White " | | + 19.7 | + 14.0 | + 15.2 | + 11.6 | + 13.4 | + 12.4 |
| Colored " | | + 19.9 | + 2.7 | + 9.1 | - 1.3 | + 5.2 | + 13.0 |
| Percent White | 77.5 | 77.5 | 79.3 | 80.2 | 82.0 | 83.1 | 83.0 |
| Percent Colored | 22.5 | 22.5 | 20.7 | 19.8 | 18.0 | 16.9 | 17.0 |
| **THE INDUSTRIAL SECTIONS COLLECTIVELY** | | | | | | | |
| Trend Indexes (1870 = 100) | | | | | | | |
| Total Population | 100.0 | 125.4 | 150.6 | 179.3 | 203.4 | 240.8 | 279.2 |
| White " | 100.0 | 124.3 | 151.1 | 181.1 | 208.9 | 248.1 | 282.9 |
| Colored " | 100.0 | 130.5 | 148.1 | 170.4 | 176.5 | 205.3 | 261.2 |
| Decadal Rates of Change | | | | | | | |
| Total Population | | + 25.4 | + 20.1 | + 19.1 | + 13.4 | + 18.4 | + 15.9 |
| White " | | + 24.3 | + 21.5 | + 19.9 | + 15.3 | + 18.8 | + 14.0 |
| Colored " | | + 30.5 | + 2.8 | + 15.0 | + 3.5 | + 16.3 | + 27.3 |
| Percent White | 83.0 | 82.3 | 83.3 | 83.8 | 85.3 | 85.5 | 84.1 |
| Percent Colored | 17.0 | 17.7 | 16.7 | 16.2 | 14.7 | 14.5 | 15.9 |
| Percent of State's | | | | | | | |
| Total Population | 53.9 | 56.4 | 60.8 | 63.5 | 66.0 | 69.9 | 72.0 |
| White " | 57.7 | 59.9 | 63.8 | 66.4 | 68.6 | 71.9 | 72.9 |
| Colored " | 40.7 | 44.4 | 49.0 | 51.7 | 54.2 | 60.0 | 67.3 |
| **THE RURAL AGRICULTURAL SECTIONS COLLECTIVELY** | | | | | | | |
| Trend Indexes (1870 = 100) | | | | | | | |
| Total Population | 100.0 | 113.1 | 113.5 | 120.4 | 122.1 | 122.0 | 126.8 |
| White " | 100.0 | 113.3 | 116.6 | 124.9 | 130.0 | 132.0 | 142.9 |
| Colored " | 100.0 | 112.6 | 105.8 | 109.5 | 102.5 | 94.5 | 87.2 |
| Decadal Rates of Change | | | | | | | |
| Total Population | | + 13.1 | + 0.4 | + 6.1 | + 1.4 | - 0.1 | + 4.0 |
| White " | | + 13.3 | + 2.9 | + 7.0 | + 4.1 | + 1.5 | + 8.3 |
| Colored " | | + 12.6 | - 6.0 | + 3.4 | - 6.3 | - 7.8 | - 7.7 |
| Percent White | 71.1 | 71.3 | 73.1 | 73.8 | 75.8 | 77.5 | 80.2 |
| Percent Colored | 28.9 | 28.7 | 26.9 | 26.2 | 24.2 | 22.5 | 19.8 |
| Percent of State's | | | | | | | |
| Total Population | 46.1 | 43.6 | 39.2 | 36.5 | 34.0 | 30.1 | 28.0 |
| White " | 42.3 | 40.1 | 36.2 | 33.6 | 31.4 | 28.1 | 27.1 |
| Colored " | 59.3 | 55.6 | 51.0 | 48.3 | 45.8 | 40.0 | 32.7 |

EXHIBIT 10a

ECONOMIC STUDIES OF MARYLAND - PART V

GRAPHS FOR EXHIBIT 10

A - The State; B - The Rural Industrial and Urban Sections Collectively; C - The Rural Agricultural Sections Collectively

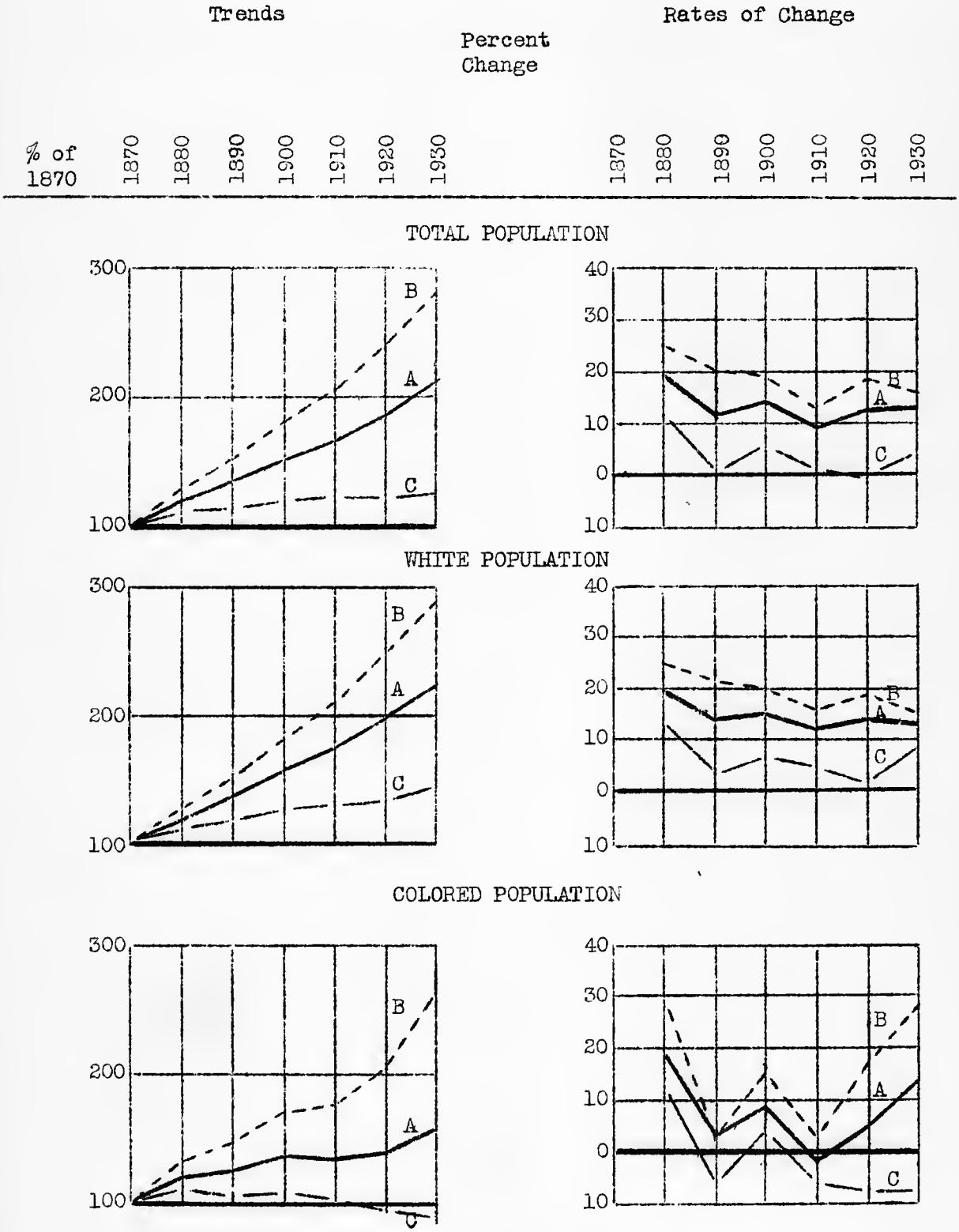


EXHIBIT 11

ECONOMIC STUDIES OF MARYLAND - PART V

POPULATION TRENDS AND RATES OF CHANGE IN THE RURAL AGRICULTURAL SECTIONS SEVERALLY, IN MONTGOMERY COUNTY AND IN BALTIMORE CITY

| Section | | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 |
|---|---|---|---|---|---|---|---|---|
| | | Trend Indexes (1870 = 100) | | | | | | |
| | Total Population | 100.0 | 110.0 | 111.0 | 117.6 | 120.0 | 121.0 | 136.0 |
| | White " | 100.0 | 109.9 | 111.8 | 120.0 | 125.0 | 128.1 | 147.0 |
| | Colored " | 100.0 | 112.6 | 105.9 | 105.3 | 94.7 | 84.1 | 81.9 |
| Io1 | | Decadal Rates of Change | | | | | | |
| | Total Population | | + 10.0 | + 0.5 | + 6.1 | + 2.1 | + 0.8 | + 12.8 |
| | White " | | + 9.9 | + 1.7 | + 7.3 | + 4.1 | + 2.6 | + 14.6 |
| | Colored " | | + 12.6 | - 4.9 | - 0.5 | -10.0 | -11.2 | - 2.6 |
| | Percent White | 83.8 | 83.5 | 84.5 | 85.5 | 87.2 | 88.7 | 90.3 |
| | Percent Colored | 16.2 | 16.5 | 15.5 | 14.5 | 12.8 | 11.3 | 9.7 |
| | | Trend Indexes (1870 = 100) | | | | | | |
| | Total Population | 100.0 | 113.7 | 113.0 | 109.0 | 106.6 | 109.0 | 118.0 |
| | White " | 100.0 | 111.2 | 112.3 | 109.2 | 109.2 | 114.6 | 128.2 |
| | Colored " | 100.0 | 125.4 | 117.0 | 109.0 | 95.3 | 84.7 | 75.0 |
| Io2 | | Decadal Rates of Change | | | | | | |
| | Total Population | | + 13.7 | - 0.5 | - 3.5 | - 2.3 | + 2.3 | + 8.6 |
| | White " | | + 11.2 | + 1.0 | - 2.7 | 0.0 | + 4.9 | + 11.9 |
| | Colored " | | + 25.4 | - 6.7 | - 6.8 | -12.6 | -11.2 | - 11.7 |
| | Percent White | 81.7 | 79.8 | 81.1 | 81.7 | 83.7 | 85.8 | 88.4 |
| | Percent Colored | 18.3 | 20.2 | 18.9 | 18.3 | 16.3 | 14.2 | 11.6 |
| | | Trend Indexes (1870 = 100) | | | | | | |
| | Total Population | 100.0 | 113.3 | 113.1 | 119.9 | 118.1 | 110.5 | 105.3 |
| | White " | 100.0 | 119.1 | 122.2 | 131.2 | 133.8 | 127.5 | 126.0 |
| | Colored " | 100.0 | 104.6 | 99.7 | 103.1 | 95.1 | 84.9 | 74.6 |
| Io8 | | Decadal Rates of Change | | | | | | |
| | Total Population | | + 13.3 | - 0.2 | + 6.0 | - 4.6 | - 6.4 | - 4.7 |
| | White " | | + 19.1 | + 2.5 | + 7.3 | + 1.8 | + 4.5 | - 1.1 |
| | Colored " | | + 4.6 | - 4.7 | + 3.5 | - 7.7 | -10.7 | - 12.2 |
| | Percent White | 59.8 | 62.8 | 64.6 | 65.4 | 67.6 | 69.0 | 71.5 |
| | Percent Colored | 40.2 | 37.2 | 35.4 | 34.6 | 32.4 | 31.0 | 28.5 |
| | | Trend Indexes (1870 = 100) | | | | | | |
| | Total Population | 100.0 | 116.6 | 127.0 | 144.0 | 157.0 | 159.0 | 165.0 |
| | White " | 100.0 | 118.4 | 132.5 | 152.4 | 170.6 | 175.7 | 186.5 |
| | Colored " | 100.0 | 113.3 | 116.3 | 128.0 | 131.5 | 126.5 | 122.0 |
| Io9 | | Decadal Rates of Change | | | | | | |
| | Total Population | | + 16.6 | + 8.9 | +13.5 | + 9.2 | + 1.4 | + 3.5 |
| | White " | | + 18.4 | +11.9 | +15.0 | +12.1 | + 3.0 | + 6.2 |
| | Colored " | | + 13.3 | + 2.7 | +10.1 | + 2.7 | - 3.8 | - 3.6 |
| | Percent White | 66.1 | 67.0 | 68.9 | 69.9 | 71.6 | 73.0 | 74.9 |
| | Percent Colored | 33.9 | 33.0 | 31.1 | 30.1 | 28.4 | 27.0 | 25.1 |

(Continued on page 16)

| Section | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 |
|---|---|---|---|---|---|---|---|
| | Trend Indexes (1870 = 100) | | | | | | |
| Total Population | 100.0 | 116.0 | 112.8 | 122.0 | 122.0 | 120.4 | 114.3 |
| White " | 100.0 | 117.4 | 121.0 | 132.9 | 138.5 | 139.3 | 135.6 |
| Colored " | 100.0 | 114.6 | 103.9 | 110.4 | 104.8 | 99.5 | 90.8 |
| Ioll | | Decadal Rates of Change | | | | | |
| Total Population | | + 16.0 | - 2.8 | + 8.4 | + 0.2 | - 1.7 | - 5.1 |
| White " | | + 17.4 | + 3.0 | + 9.9 | + 4.2 | + 0.6 | - 2.7 |
| Colored " | | + 14.6 | - 9.4 | + 6.3 | - 5.1 | - 5.0 | - 8.8 |
| Percent White | 52.5 | 53.1 | 56.2 | 57.1 | 59.3 | 60.7 | 62.3 |
| Percent Colored | 47.5 | 46.9 | 43.8 | 42.9 | 40.7 | 39.3 | 37.7 |

MONTGOMERY COUNTY

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Trend Indexes - 1870 to 1930 - 1870 = 100 | | | | | | |
| Total Population | 100.0 | 120.4 | 132.2 | 148.1 | 156.0 | 169.8 | 239.3 |
| White " | 100.0 | 118.9 | 133.3 | 155.3 | 174.0 | 202.9 | 311.7 |
| Colored " | 100.0 | 123.1 | 130.3 | 135.3 | 124.3 | 111.5 | 111.5 |
| | Decadal Rates of Change | | | | | | |
| Total Population | | + 20.4 | + 9.8 | + 12.0 | + 5.4 | + 8.8 | + 40.9 |
| White " | | + 18.9 | +11.2 | + 16.5 | +12.0 | +16.6 | + 53.6 |
| Colored " | | + 23.1 | + 5.8 | + 3.8 | - 8.1 | -10.3 | 0.0 |
| Percent White | 63.8 | 63.0 | 64.4 | 67.0 | 71.0 | 76.3 | 83.2 |
| Percent Colored | 36.2 | 37.0 | 35.6 | 33.0 | 29.0 | 23.7 | 16.8 |

BALTIMORE CITY

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Trend Indexes - 1870 to 1930 - 1870 = 100 | | | | | | |
| Total Population | 100.0 | 124.3 | 162.5 | 190.1 | 208.9 | 274.5 | 301.0 |
| White " | 100.0 | 122.3 | 161.2 | 188.4 | 207.8 | 274.4 | 290.7 |
| Colored " | 100.0 | 135.8 | 170.1 | 201.6 | 215.1 | 274.8 | 360.8 |
| | Decadal Rates of Change | | | | | | |
| Total Population | | + 24.3 | +30.7 | + 17.1 | + 9.7 | +31.4 | + 9.7 |
| White " | | + 22.3 | +31.8 | + 17.0 | +10.3 | +32.1 | + 5.9 |
| Colored " | | + 35.8 | +25.2 | + 18.5 | +27.7 | +27.7 | +31.3 |
| Percent White | 85.2 | 83.8 | 84.5 | 84.3 | 84.8 | 85.2 | 82.3 |
| Percent Colored | 14.8 | 16.2 | 15.5 | 15.7 | 15.2 | 14.8 | 17.7 |
| Percent of State's | | | | | | | |
| Total Population | 34.2 | 35.5 | 41.7 | 42.8 | 43.1 | 53.4 | 49.3 |
| White " | 37.6 | 38.4 | 44.4 | 45.1 | 44.5 | 52.0 | 48.9 |
| Colored " | 22.5 | 25.5 | 31.2 | 33.8 | 36.6 | 44.4 | 51.5 |

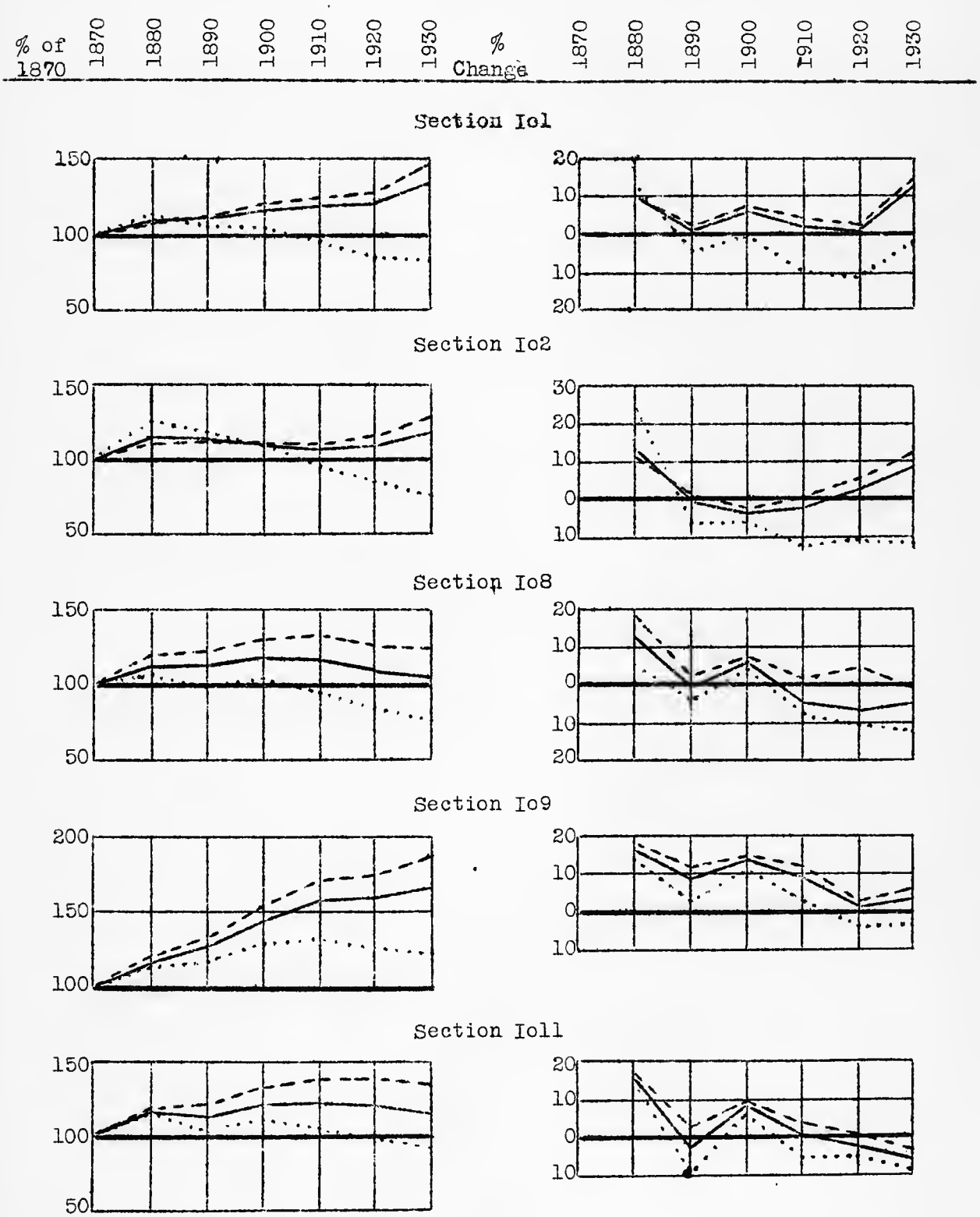
EXHIBIT 11a

ECONOMIC STUDIES OF MARYLAND - PART V

POPULATION CHANGES AND RATES OF CHANGE IN THE RURAL AGRICULTURAL SECTIONS SEVERALLY. - 1870 TO 1930 - 1870 = 100

Legend: Total ———, White — — — —, Colored . . . . . .

Trends | Rates of Change

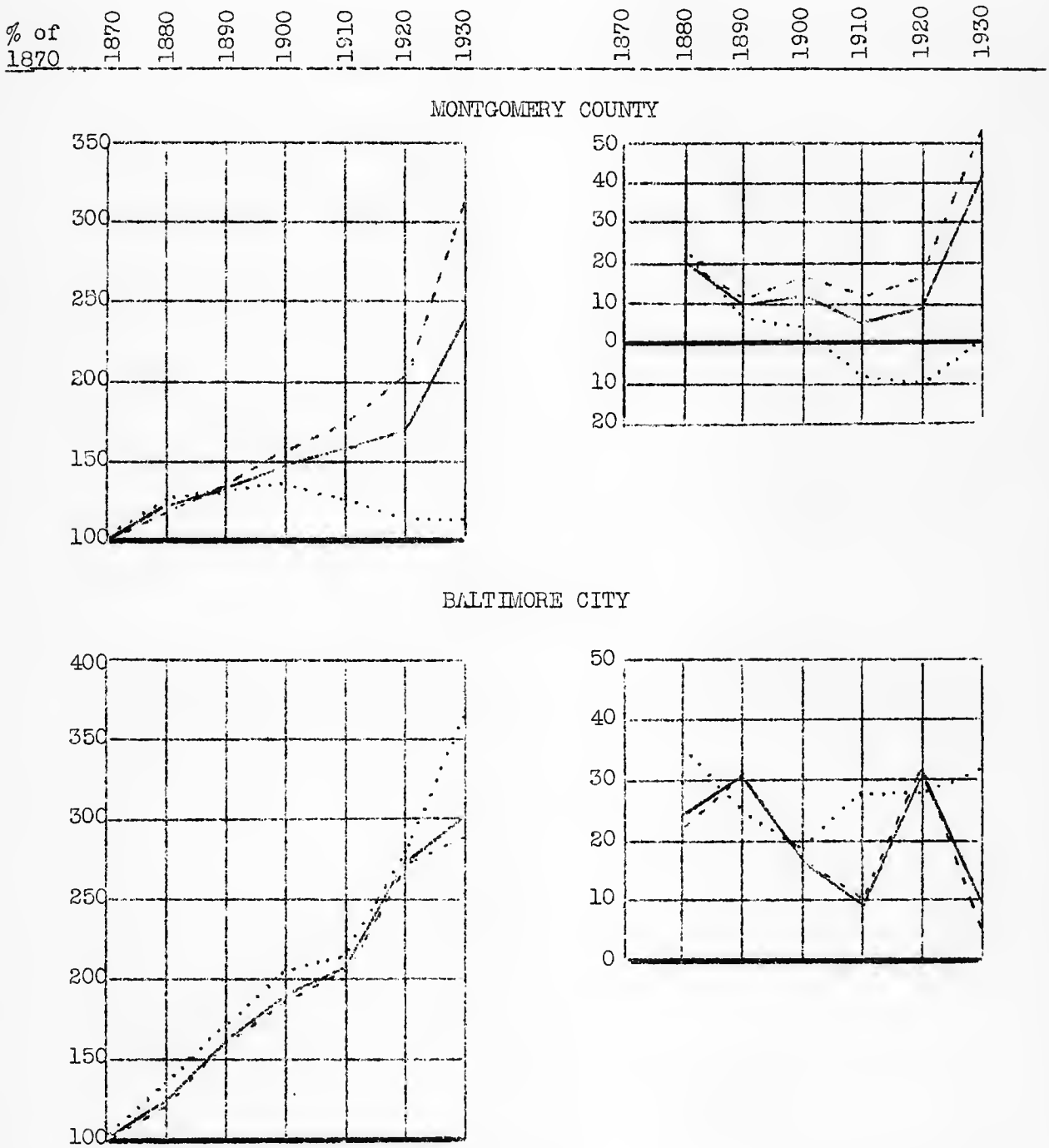


ECONOMIC STUDIES OF MARYLAND - PART V

POPULATION CHANGES AND RATES OF CHANGE IN MONTGOMERY COUNTY OF SECTION 101 AND IN BALTIMORE CITY

Legend: Total _____, White _ _ _ _, Colored . . . . . .

Trend | Rates of Change



ECONOMIC STUDIES OF MARYLAND - PART V

DISTRIBUTION OF POPULATION IN THE STATE AND IN AGRICULTURAL COUNTIES AND SECTIONS BY URBAN, RURAL, RURAL FARM AND RURAL NON-FARM RESIDENCE

THE STATE (1)

| Year | Total | Urban | Percent of Total Population: Rural: Total | Rural: Farm | Rural: Non-Farm |
|---|---|---|---|---|---|
| 1920 | 100.0 | 60.0 | 40.0 | 19.1 | 20.9 |
| 1930 | 100.0 | 59.7 | 40.3 | 14.5 | 25.9 |
| | Decadal Rates of Population Change (1920 - '30) | | | | |
| | + 12.5 | + 12.1 | + 13.1 | - 14.9 | + 39.0 |

AGRICULTURAL COUNTIES AND SECTIONS - 1930

| | Percent of Total Population: Urban | Rural: Total | Rural: Farm | Rural: Non-Farm | Occupations: S | N-S | A |
|---|---|---|---|---|---|---|---|
| Carroll | 12.4 | 87.6 | 41.2 | 46.4 | 32.9 | 25.6 | 41.5 |
| Frederick | 33.3 | 66.7 | 34.4 | 32.3 | 44.8 | 22.0 | 33.2 |
| Howard | | 100.0 | 45.5 | 54.5 | 36.4 | 23.5 | 40.1 |
| Montgomery | 11.0 | 89.0 | 23.0 | 66.0 | 60.6 | 16.7 | 22.7 |
| Washington* | | 100.0 | 38.4 | 61.6 | 37.4 | 24.5 | 38.1 |
| Sec. Io1 | 14.7 | 85.3 | 34.4 | 50.9 | 44.9 | 21.8 | 33.3 |
| * Exclusive of Hagerstown | | | | | | | |
| Cecil | 12.9 | 87.1 | 29.4 | 57.7 | 44.3 | 26.3 | 29.4 |
| Harford | 12.6 | 87.4 | 43.0 | 44.4 | 52.8 | 14.4 | 32.8 |
| Sec. Io2 | 12.7 | 87.3 | 36.9 | 50.4 | 49.4 | 19.2 | 31.4 |
| Caroline | | 100.0 | 50.7 | 49.3 | 30.9 | 18.7 | 50.4 |
| Kent | 19.7 | 80.3 | 34.3 | 46.0 | 40.2 | 17.4 | 42.4 |
| Queen Annes | | 100.0 | 51.1 | 48.9 | 27.6 | 18.9 | 53.5 |
| Talbot | 22.0 | 78.0 | 35.5 | 42.5 | 35.1 | 31.0 | 33.9 |
| Sec. Io8 | 10.6 | 89.4 | 42.9 | 46.5 | 33.6 | 22.2 | 44.2 |
| Dorchester | 31.9 | 68.1 | 29.4 | 38.7 | 32.0 | 37.3 | 30.7 |
| Wicomico | 35.2 | 64.8 | 32.0 | 32.8 | 37.6 | 30.0 | 32.4 |
| Sec. Io9 | 33.6 | 66.4 | 30.8 | 35.6 | 35.0 | 33.4 | 31.6 |
| Calvert | | 100.0 | 61.7 | 38.3 | 23.0 | 16.6 | 60.4 |
| Charles | | 100.0 | 65.3 | 34.7 | 35.4 | 13.9 | 52.7 |
| St. Mary's | | 100.0 | 54.7 | 45.3 | 27.2 | 16.5 | 56.3 |
| Somerset | 16.5 | 83.5 | 32.0 | 51.5 | 27.1 | 34.4 | 38.5 |
| Worcester | 12.1 | 87.9 | 48.4 | 39.5 | 32.9 | 20.7 | 46.4 |
| Sec. Io11 | 7.5 | 92.5 | 49.7 | 42.9 | 29.3 | 22.3 | 48.4 |

(1) No breakdown of Rural Population into Farm and Non-Farm prior to 1920 is available. The 1935 Census of Agriculture shows 11,570 persons living on farms who lived in non-farm residences in 1930.

(2) Percent of Total Gainfully Occupied - S: Service, N-S: Non-Service, A: Agriculture.

EXHIBIT 13

ECONOMIC STUDIES OF MARYLAND - PART V

TRENDS IN NUMBER OF FARMS, FARM ACREAGE, VALUE OF FARM LAND AND BUILDINGS AND IN FARM TENURE

UNITED STATES AND MARYLAND

1900 to 1935 (1900 = 100)

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Number of Farms

| Year | Total Farms | | Owner or Manager Operated | | | | Tenant Operated | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % of 1900 | | % of 1900 | | % of Total | | % of 1900 | | % of Total | |
| | U.S. | Md. | U.S. | Md. | U.S. | Md. | U.S. | Md. | U.S. | Md. |
| 1900 | 100.0 | 100.0 | 100.0 | 100.0 | 64.7 | 66.4 | 100.0 | 100.0 | 35.3 | 33.6 |
| 1910 | 110.9 | 106.3 | 107.9 | 112.9 | 63.0 | 70.5 | 116.3 | 93.3 | 37.0 | 29.5 |
| 1920 | 112.4 | 104.1 | 107.6 | 111.4 | 62.0 | 71.1 | 121.2 | 89.6 | 38.0 | 28.9 |
| 1925 | 111.1 | 106.5 | 105.3 | 118.0 | 61.4 | 73.6 | 121.6 | 83.7 | 38.6 | 26.4 |
| 1930 | 109.6 | 93.9 | 92.7 | 103.9 | 57.6 | 73.5 | 131.6 | 74.1 | 42.4 | 26.5 |
| 1935 | 118.7 | 96.5 | 106.3 | 105.7 | 57.9 | 72.8 | 141.5 | 78.3 | 42.1 | 27.2 |

Farm Acreage

| Year | Total Acreage | | Owner or Manager Operated | | | | Tenant Operated | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % of 1900 | | % of 1900 | | % of Total | | % of 1900 | | % of Total | |
| | U.S. | Md. | U.S. | Md. | U.S. | Md. | U.S. | Md. | U.S. | Md. |
| 1900 | 100.0 | 100.0 | 100.0 | 100.0 | 76.7 | 58.1 | 100.0 | 100.0 | 23.3 | 41.9 |
| 1910 | 104.8 | 97.8 | 101.3 | 103.6 | 74.2 | 61.5 | 116.1 | 89.8 | 25.8 | 38.5 |
| 1920 | 114.0 | 92.8 | 107.4 | 100.2 | 72.3 | 63.3 | 135.9 | 80.7 | 27.7 | 36.7 |
| 1925 | 110.2 | 85.7 | 102.5 | 95.1 | 71.3 | 64.4 | 135.8 | 72.8 | 28.7 | 35.6 |
| 1930 | 117.7 | 84.6 | 105.7 | 95.5 | 68.9 | 65.6 | 157.1 | 69.6 | 31.1 | 34.4 |
| 1935 | 125.7 | 84.8 | 111.5 | 97.1 | 68.1 | 66.6 | 172.7 | 67.7 | 31.9 | 33.4 |

Value of Farm Land and Buildings

| Year | Total Value | | Owner or Manager Operated | | | | Tenant Operated | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % of 1900 | | % of 1900 | | % of Total | | % of 1900 | | % of Total | |
| | U.S. | Md. | U.S. | Md. | U.S. | Md. | U.S. | Md. | U.S. | Md. |
| 1900 | 100.0 | 100.0 | 100.0 | 100.0 | 71.4 | 62.2 | 100.0 | 100.0 | 28.6 | 37.8 |
| 1910 | 209.5 | 138.0 | 200.8 | 144.4 | 68.5 | 65.1 | 231.2 | 127.5 | 31.5 | 34.9 |
| 1920 | 399.1 | 220.7 | 358.4 | 234.4 | 64.1 | 66.0 | 501.0 | 198.2 | 35.9 | 34.0 |
| 1925 | 297.7 | 194.9 | 274.9 | 220.0 | 65.9 | 70.2 | 354.8 | 153.5 | 34.1 | 29.8 |
| 1930 | 288.2 | 203.3 | 265.4 | 237.9 | 65.8 | 72.7 | 345.0 | 146.5 | 34.2 | 27.3 |
| 1935 | 197.8 | 138.6 | 184.6 | 164.1 | 66.7 | 73.7 | 230.7 | 96.5 | 33.3 | 26.3 |

EXHIBIT 13a

ECONOMIC STUDIES OF MARYLAND - PART V

GRAPHS FOR EXHIBIT 13

TRENDS IN NUMBER OF FARMS, FARMS ACREAGE, VALUE OF FARM LAND AND BUILDINGS AND FARM TENURE

UNITED STATES AND MARYLAND

1900 to 1935 (1900 = 100)

A - UNITED STATES B - MARYLAND

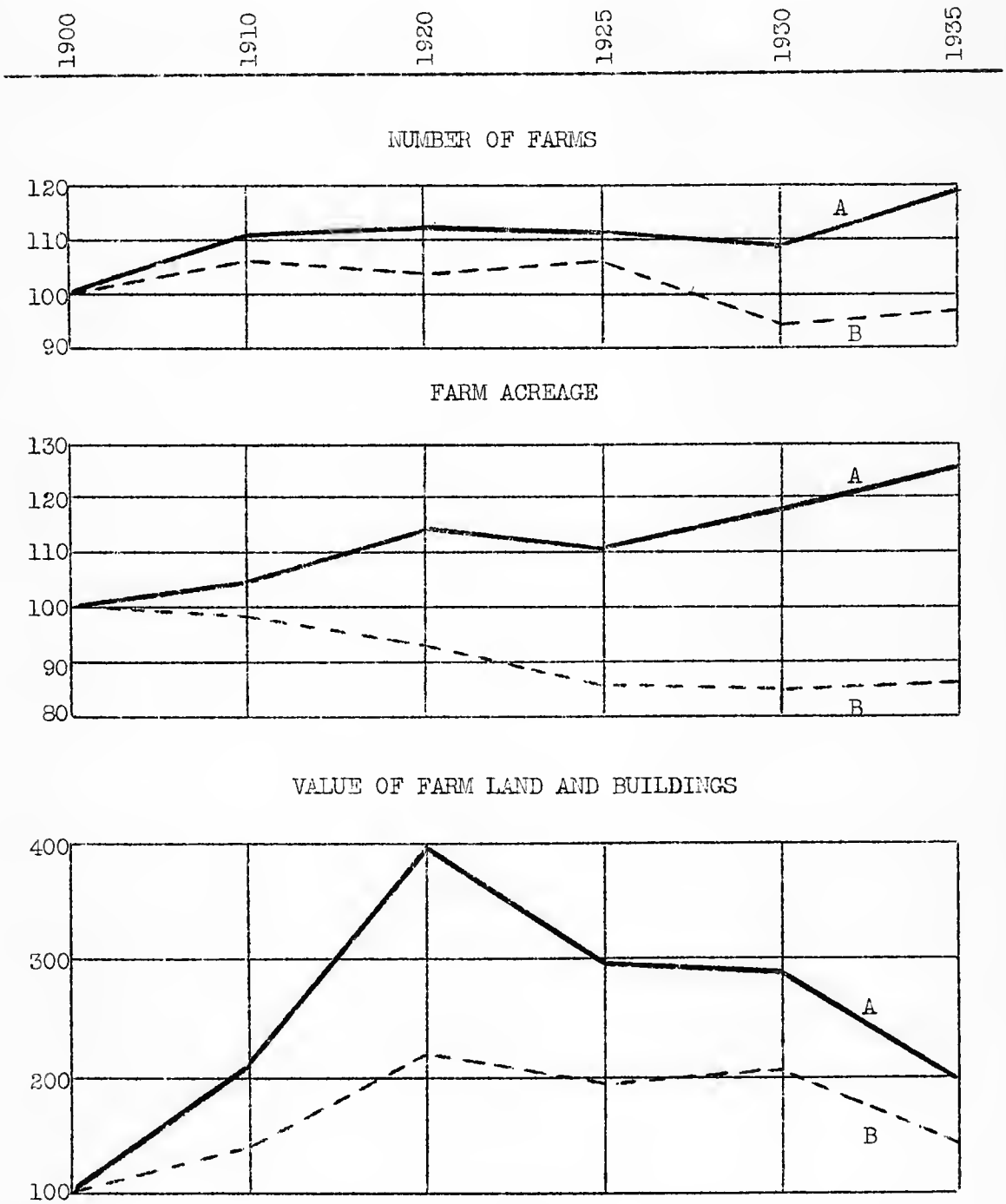


EXHIBIT 13a cont'd.

ECONOMIC STUDIES OF MARYLAND - PART V

A - UNITED STATES B - MARYLAND

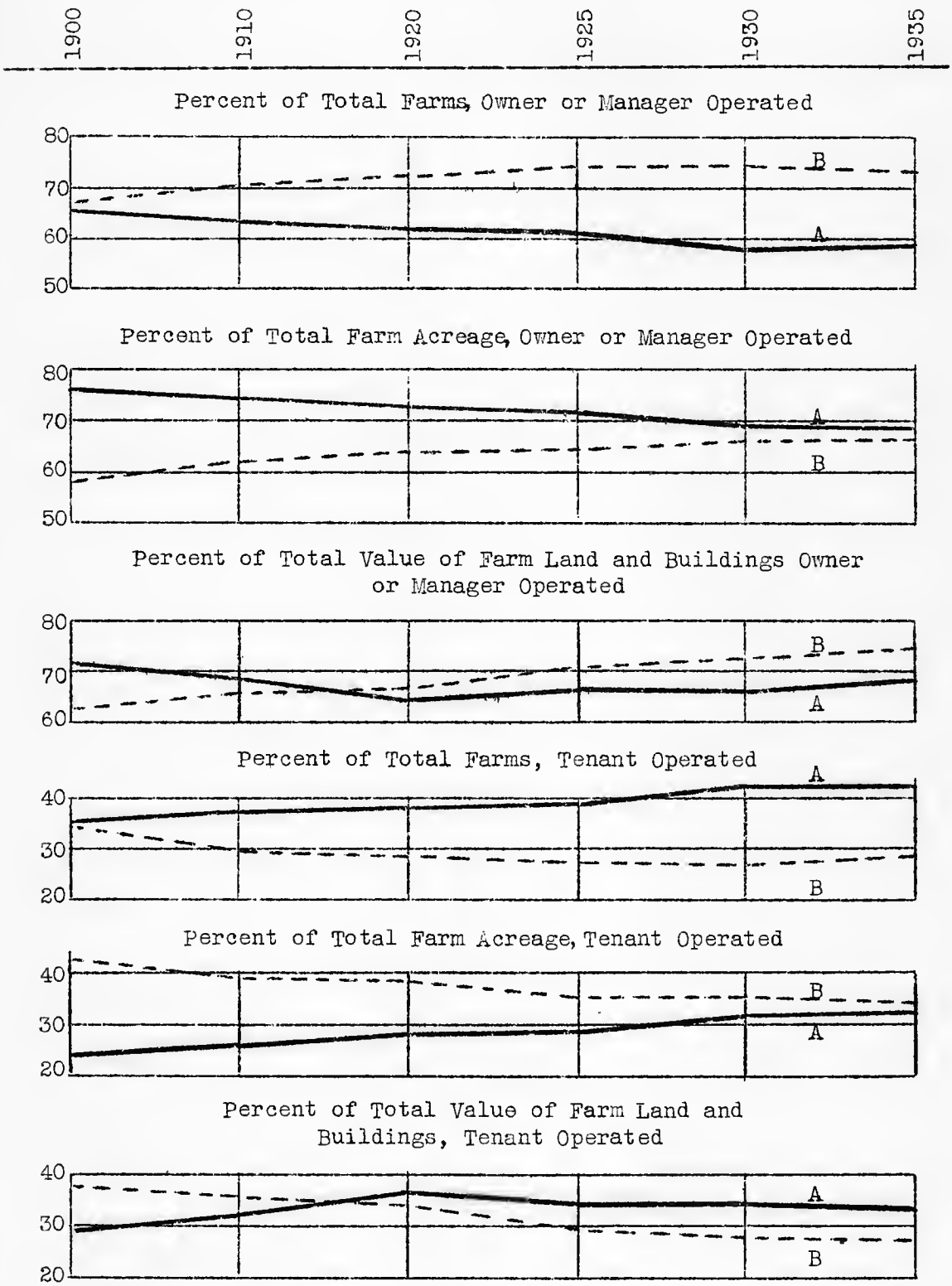


EXHIBIT 13b

ECONOMIC STUDIES OF MARYLAND - PART V

FARM TENURE - IN COUNTIES AND ECONOMIC SECTIONS OF MARYLAND - 1900 TO 1935

A = Total number of farms B = Percent of total farms tenant operated

| | | 1900 | 1910 | 1920 | 1925 | 1930 | 1935 |
|---|---|---|---|---|---|---|---|
| The State | A | 46012 | 48923 | 47908 | 49001 | 43203 | 44412 |
| | B | 33.6 | 29.5 | 28.9 | 26.4 | 26.5 | 27.2 |
| Washington | A | 2393 | 2466 | 2544 | 2512 | 2552 | 2600 |
| | B | 34.5 | 32.3 | 32.0 | 27.8 | 28.0 | 16.0 |
| Frederick | A | 3747 | 3804 | 3817 | 3799 | 3434 | 3474 |
| | B | 30.1 | 31.2 | 27.7 | 26.1 | 26.9 | 27.9 |
| Carroll | A | 3352 | 3484 | 3518 | 3537 | 3149 | 3290 |
| | B | 25.2 | 24.5 | 23.9 | 23.0 | 19.9 | 22.2 |
| Howard | A | 1214 | 1385 | 1297 | 1254 | 1098 | 1226 |
| | B | 25.2 | 16.6 | 18.7 | 16.1 | 13.6 | 18.8 |
| Montgomery | A | 2085 | 2442 | 2145 | 1970 | 1971 | 1900 |
| | B | 21.9 | 21.4 | 23.0 | 19.6 | 19.3 | 20.5 |
| Section Io1 | A | 12791 | 13581 | 13321 | 13072 | 12204 | 11264 |
| | B | 27.8 | 26.5 | 25.9 | 23.7 | 22.9 | 24.3 |
| Harford | A | 2431 | 2512 | 2399 | 2514 | 2260 | 2128 |
| | B | 22.6 | 20.5 | 16.4 | 15.5 | 15.9 | 14.0 |
| Cecil | A | 1633 | 1717 | 1740 | 1639 | 1424 | 1298 |
| | B | 40.3 | 36.8 | 34.1 | 29.6 | 25.1 | 27.8 |
| Section Io2 | A | 4064 | 4229 | 4139 | 4153 | 3684 | 3426 |
| | B | 29.7 | 27.1 | 23.8 | 21.1 | 19.5 | 19.3 |
| Kent | A | 941 | 1093 | 1032 | 1068 | 971 | 1014 |
| | B | 56.7 | 51.5 | 53.3 | 50.9 | 46.9 | 43.5 |
| Queen Annes | A | 1456 | 1421 | 1409 | 1426 | 1464 | 1220 |
| | B | 55.1 | 52.7 | 52.2 | 47.6 | 42.1 | 51.8 |
| Caroline | A | 1863 | 2126 | 2071 | 2206 | 1922 | 1977 |
| | B | 41.9 | 36.3 | 32.1 | 34.4 | 33.9 | 34.8 |
| Talbot | A | 1199 | 1297 | 1205 | 1183 | 1113 | 1046 |
| | B | 43.9 | 39.0 | 38.2 | 38.7 | 36.8 | 42.3 |
| Section Io8 | A | 5459 | 5937 | 5717 | 5883 | 5470 | 5257 |
| | B | 48.4 | 43.6 | 42.1 | 41.4 | 39.0 | 41.9 |
| Dorchester | A | 2007 | 2214 | 2019 | 1954 | 1598 | 1961 |
| | B | 40.4 | 36.5 | 40.5 | 39.1 | 39.1 | 36.1 |
| Wicomico | A | 2314 | 2678 | 2504 | 2603 | 2193 | 2635 |
| | B | 34.3 | 28.9 | 27.3 | 25.7 | 26.2 | 29.4 |
| Section Io9 | A | 4321 | 4892 | 4523 | 4557 | 3791 | 4596 |
| | B | 37.1 | 32.3 | 33.2 | 31.5 | 31.6 | 32.2 |

EXHIBIT 13b cont'd.

ECONOMIC STUDIES OF MARYLAND - PART V

FARM TENURE - IN COUNTIES AND ECONOMIC SECTIONS OF MARYLAND - 1900 TO 1935

A = Total number of farms B = Percent of total farms tenant operated

| | | 1900 | 1910 | 1920 | 1925 | 1930 | 1935 |
|---|---|---|---|---|---|---|---|
| Calvert | A | 1077 | 1080 | 1130 | 1256 | 1103 | 1269 |
| | B | 43.5 | 34.8 | 30.8 | 32.9 | 43.7 | 51.0 |
| Charles | A | 1900 | 1623 | 1985 | 1791 | 1592 | 1663 |
| | B | 38.4 | 36.4 | 38.1 | 30.0 | 36.6 | 37.3 |
| St. Marys | A | 1292 | 1625 | 1790 | 1794 | 1392 | 1436 |
| | B | 46.0 | 41.8 | 41.0 | 35.7 | 42.0 | 43.0 |
| Somerset | A | 1521 | 1986 | 1820 | 2176 | 1561 | 1653 |
| | B | 29.6 | 23.1 | 19.6 | 19.6 | 19.6 | 20.9 |
| Worcester | A | 1987 | 2344 | 2334 | 2335 | 2190 | 2103 |
| | B | 46.9 | 38.0 | 34.4 | 34.7 | 32.7 | 35.9 |
| Section Ioll | A | 7777 | 8658 | 9059 | 9352 | 7838 | 8124 |
| | B | 40.8 | 34.6 | 33.1 | 30.2 | 34.1 | 36.7 |
| Allegany | A | 894 | 1023 | 999 | 1177 | 1020 | 1352 |
| | B | 22.2 | 17.2 | 17.7 | 19.7 | 15.1 | 16.1 |
| Garrett | A | 1788 | 2076 | 1810 | 1974 | 1839 | 1999 |
| | B | 14.5 | 9.9 | 7.7 | 8.9 | 10.8 | 13.5 |
| Section H-5 | A | 2682 | 3099 | 2809 | 3151 | 2859 | 3351 |
| | B | 17.0 | 10.3 | 11.3 | 12.9 | 12.3 | 14.5 |
| Baltimore Co. | A | 1889 | 2038 | 1965 | 2218 | 1555 | 1447 |
| Section I-2 | B | 35.7 | 29.5 | 28.1 | 23.1 | 26.0 | 24.2 |
| Anne Arundel | A | 1889 | 2038 | 1965 | 2218 | 1555 | 1447 |
| | B | 35.7 | 29.5 | 28.1 | 23.1 | 26.0 | 24.2 |
| Prince George | A | 2374 | 2288 | 2457 | 2273 | 2291 | 2303 |
| | B | 37.1 | 29.0 | 35.1 | 31.7 | 32.1 | 33.6 |
| Section I-3 | A | 4263 | 4326 | 4422 | 4491 | 3846 | 3750 |
| | B | 36.9 | 29.2 | 32.0 | 27.4 | 29.6 | 30.0 |

ECONOMIC STUDIES OF MARYLAND - PART V

TRENDS IN AVERAGE PER FARM VALUE OF FARM IMPLEMENTS AND MACHINERY, NUMBER OF HORSES AND MULES ON FARMS AND EXPENDITURES FOR FARM LABOR, NUMBER OF FARMS, NUMBER GAINFULLY OCCUPIED IN AGRICULTURE, AVERAGE SIZE OF FARMS AND DISTRIBUTION BY SIZE CLASSIFICATIONS

UNITED STATES AND MARYLAND - 1900 to 1930

| | 1900 | | 1910 | | 1920 | | 1930 | |
|---|---|---|---|---|---|---|---|---|
| | VALUE OF FARM IMPLEMENTS AND MACHINERY (Per Farm) | | | | | | | |
| | Value Dollars | % of 1900 | Value Dollars | % of 1900 | Value Dollars | % of 1900 | Value Dollars | % of 1900 |
| U.S. | 130.7 | 100.0 | 198.9 | 152.2 | 557.5 | 426.6 | 525.0 | 401.7 |
| Md. | 187.1 | 100.0 | 242.4 | 129.5 | 604.7 | 323.1 | 594.4 | 317.6 |
| | NUMBER OF HORSES AND MULES ON FARMS (Per Farm) | | | | | | | |
| | Number | % of 1900 | Number | % of 1900 | Number | % of 1900 | Number | % of 1900 |
| U.S. | 3.75 | 100.0 | 3.78 | 100.7 | 3.91 | 104.1 | 3.00 | 80.0 |
| Md. | 3.62 | 100.0 | 3.64 | 100.6 | 3.63 | 100.3 | 2.85 | 78.8 |
| | EXPENDITURES FOR FARM LABOR (Per Farm) | | | | | | | |
| | Dollars | % of 1900 | Dollars | % of 1900 | Dollars | % of 1900 | Dollars | % of 1900 |
| U.S. | 62.3 | 100.0 | 102.4 | 164.4 | 210.3 | 337.7 | 151.9 | 243.9 |
| Md. | 124.2 | 100.0 | 179.9 | 144.8 | 349.0 | 281.0 | 297.8 | 239.7 |
| | NUMBER OF FARMS (Trend Indexes - 1900 = 100) | | | | | | | |
| U.S. | 100.0 | | 110.9 | | 112.4 | | 109.6 | |
| Md. | 100.0 | | 106.0 | | 104.1 | | 93.9 | |
| | NUMBER GAINFULLY OCCUPIED IN AGRICULTURE (Trend Indexes - 1900 = 100) | | | | | | | |
| U.S. | 100.0 | | 106.2 | | 104.9 | | 96.0 | |
| Md. | 100.0 | | 114.2 | | 95.2 | | 88.4 | |
| | AVERAGE SIZE OF FARMS (Acres) | | | | | | | |
| U.S. | 146.2 | | 138.1 | | 148.2 | | 156.9 | |
| Md. | 112.4 | | 103.4 | | 99.3 | | 101.3 | |
| | DISTRIBUTION OF FARMS BY SIZE CLASSIFICATIONS (Percent of Total) | | | | | | | |
| | Under 100 Acres | | | | | | | |
| U.S. | 57.5 | | 58.0 | | 58.6 | | 59.4 | |
| Md. | 54.6 | | 58.8 | | 60.4 | | 59.6 | |
| | 100 to 499 Acres | | | | | | | |
| U.S. | 39.9 | | 39.2 | | 38.1 | | 36.8 | |
| Md. | 43.9 | | 39.9 | | 38.7 | | 39.3 | |
| | 500 to 999 Acres | | | | | | | |
| U.S. | 1.8 | | 2.0 | | 2.3 | | 2.5 | |
| Md. | 1.3 | | 1.0 | | 0.8 | | 0.9 | |
| | 1000 and over Acres | | | | | | | |
| U.S. | 0.8 | | 1.0 | | 1.0 | | 1.3 | |
| Md. | 0.2 | | 0.1 | | 0.1 | | 0.2 | |

EXHIBIT 15

ECONOMIC STUDIES OF MARYLAND - PART V

TRENDS IN LIVESTOCK ON FARMS AND IN LIVESTOCK PRODUCTS

| | 1900 | 1910 | 1920 | 1925 | 1930 | 1935 |
|---|---|---|---|---|---|---|
| TABLE 1 - TRENDS IN SPECIFIED LIVESTOCK ON FARMS | | | | | | |
| Cattle | 100.0 | 98.3 | 86.8 | 93.1 | 108.9 | 105.0 |
| Cows and heifers (1) | | | 100.0 | 111.2 | (4) | 114.7 |
| Swine | 100.0 | 94.9 | 96.4 | 59.0 | 64.6 | 50.4 |
| Sheep (2) | 100.0 | 113.2 | 80.7 | 67.0 | 96.0 | 83.9 |
| Chickens: (3) | | | | | | |
| Number | | 100.0 | 129.6 | 158.4 | 142.5 | 92.7 |
| Value | | 100.0 | 230.5 | 290.7 | 229.8 | 151.0 |

| | 1899 | 1909 | 1919 | 1924 | 1929 | 1934 |
|---|---|---|---|---|---|---|
| TABLE 2 - TRENDS IN POULTRY PRODUCTS | | | | | | |
| Chickens raised: | | | | | | |
| Number | | 100.0 | 97.3 | 111.2 | 137.0 | 129.7 |
| Value | | 100.0 | 194.9 | 213.9 | 288.9 | 188.1 |
| Eggs Produced: | | | | | | |
| Dozens | | 100.0 | 99.0 | 131.7 | 182.5 | 138.2 |
| Value | | 100.0 | 208.9 | 218.6 | 292.5 | 129.9 |
| TABLE 3 - TRENDS IN DAIRY PRODUCTS | | | | | | |
| Cows milked | | | | 100.0 | 96.2 | 105.1 |
| Milk: | | | | | | |
| Produced | 100.0 | 93.3 | 91.7 | 115.6 | 137.1 | 136.4 |
| Sold as whole milk | 100.0 | 94.0 | 144.5 | 208.1 | 315.1 | (4) |
| Butter: | | | | | | |
| Churned on farms | 100.0 | 96.1 | 67.7 | 57.8 | 39.9 | 33.3 |
| Sold | 100.0 | 97.5 | 67.3 | (4) | 37.3 | (4) |
| Cream Sold: | | | | | | |
| As butter fat | | 100.0 | 130.6 | 551.2 | 236.6 | (4) |
| Not as butter fat | | 100.0 | 68.4 | 53.9 | 42.1 | (4) |
| TABLE 4 - TRENDS IN WOOL | | | | | | |
| Pounds | | 100.0 | 78.1 | 61.0 | 78.9 | 71.7 |
| Value | | 100.0 | 159.9 | 101.0 | 84.8 | 65.8 |

(1) Two years old and older.
(2) Due to the Census being taken some years prior to and some years after the spring lambing season, lambs were not included.
(3) Three months old and older.
(4) Not reported.

EXHIBIT 16

ECONOMIC STUDIES OF MARYLAND - PART V

TRENDS IN FRUIT TREES, GRAPE VINES AND SMALL FRUITS

| | 1910 | 1920 | 1925 | 1930 | 1935 |
|---|---|---|---|---|---|
| | | TABLE 1 - TREES OF ALL AGES | | | |
| Total | 100.0 | 82.2 | (1) | 59.0 | 41.8 |
| Apple | 100.0 | 124.1 | 112.1 | 95.4 | 68.8 |
| Peach | 100.0 | 55.7 | 45.3 | 38.8 | 28.6 |
| Pear | 100.0 | 52.2 | 42.1 | 25.6 | 11.1 |
| Cherry | 100.0 | 80.4 | (1) | 41.9 | 39.1 |
| | | TABLE 2 - NON-BEARING AGE TREES | | | |
| Total | 100.0 | 68.5 | (1) | 31.3 | 16.0 |
| Apple | 100.0 | 116.0 | 73.9 | 41.4 | 18.6 |
| Peach | 100.0 | 35.5 | (1) | 22.6 | 15.5 |
| Pear | 100.0 | 35.4 | (1) | 10.2 | 4.4 |
| Cherry | 100.0 | 62.6 | (1) | 29.6 | 30.1 |
| | | TABLE 3 - BEARING AGE TREES | | | |
| Total | 100.0 | 88.7 | (1) | 72.2 | 54.1 |
| Apple | 100.0 | 128.2 | 131.7 | 123.0 | 93.8 |
| Peach | 100.0 | 66.6 | (1) | 45.4 | 35.6 |
| Pear | 100.0 | 56.5 | (1) | 29.6 | 12.8 |
| Cherry | 100.0 | 86.4 | (1) | 46.0 | 42.1 |
| | | TABLE 4 - GRAPE VINES | | | |
| All ages | 100.0 | 107.0 | 179.2 | 146.3 | 115.5 |
| Non-bearing age | 100.0 | 71.8 | (1) | 94.5 | 34.5 |
| Bearing age | 100.0 | 118.5 | (1) | 162.9 | 141.5 |
| | 1909 | 1919 | 1924 | 1929 | 1934 |
| | | TABLE 5 - PRODUCTION (Bushels) | | | |
| Total | 100.0 | 93.7 | (1) | 112.3 | 58.3 |
| Apple | 100.0 | 83.3 | 95.1 | 114.5 | 73.4 |
| Peach | 100.0 | 173.8 | 167.6 | 201.7 | 16.6 |
| Pear | 100.0 | 78.2 | (1) | 30.7 | 24.2 |
| Cherry | 100.0 | 59.3 | (1) | 39.7 | 23.7 |
| Grapes (Pounds) | 100.0 | 71.6 | (1) | 60.0 | 62.4 |

(1) Not reported

EXHIBIT 16 cont'd.

ECONOMIC STUDIES OF MARYLAND - PART V

TRENDS IN FRUIT TREES, GRAPE VINES AND SMALL FRUITS

| | 1909 | 1919 | 1924 | 1929 | 1934 |
|---|---|---|---|---|---|
| | | TABLE 6 - CROP VALUES (Dollars) | | | |
| Total | 100.0 | 270.8 | (1) | 228.6 | 91.5 |
| Apple | 100.0 | 269.4 | 187.4 | 267.8 | 133.4 |
| Peach | 100.0 | 296.4 | 214.0 | 231.8 | 25.3 |
| Pear | 100.0 | 272.6 | (1) | 55.9 | 31.6 |
| Cherry | 100.0 | 133.6 | (1) | 105.6 | 29.2 |
| Grapes | 100.0 | 202.0 | (1) | 77.4 | 62.8 |
| | | SMALL FRUITS | | | |
| | | TABLE 7 - ACREAGE | | | |
| Total | 100.0 | 50.8 | (1) | 67.0 | (1) |
| Strawberries | 100.0 | 49.6 | 83.9 | 65.7 | 50.9 |
| Blackberries and Dewberries | 100.0 | 51.5 | (1) | 60.8 | (1) |
| Raspberries | 100.0 | 69.3 | (1) | 97.0 | (1) |
| | | TABLE 8 - PRODUCTION (Quarts harvested) | | | |
| Total | 100.0 | 39.4 | (1) | 70.5 | (1) |
| Strawberries | 100.0 | 38.0 | (1) | 71.2 | 49.8 |
| Blackberries and Dewberries | 100.0 | 37.7 | (1) | 50.3 | (1) |
| Raspberries | 100.0 | 75.4 | (1) | 83.6 | (1) |

(1) Not reported

EXHIBIT 17

ECONOMIC STUDIES OF MARYLAND - PART V

TRENDS IN ACREAGE DEVOTED TO VEGETABLE CROPS (Except potatoes)
AND
VALUES OF SPECIFIED VEGETABLE CROPS

| | 1899 | 1909 | 1919 | 1924 | 1929 | 1934 |
|---|---|---|---|---|---|---|
| | ACREAGE - ALL VEGETABLES (Except potatoes) | | | | | |
| The State | 100.0 | 107.6 | 119.5 | (1) | 153.6 | 158.6 |
| Baltimore County | 100.0 | 87.3 | 83.8 | (1) | 114.0 | 134.7 |
| | ACREAGE - SPECIFIED VEGETABLE CROPS | | | | | |
| Asparagus | 100.0 | 256.5 | 181.9 | (1) | 853.7 | (1) |
| Snap or string beans | 100.0 | 251.9 | 475.9 | (1) | 1246.6 | 1581.8 |
| Cabbages | 100.0 | 71.7 | 50.3 | 49.8 | 53.4 | 46.5 |
| Cantaloupes | 100.0 | 101.6 | 134.8 | 170.6 | 198.4 | (1) |
| Sweet Corn | 100.0 | 110.9 | 209.8 | 259.7 | 272.8 | 206.7 |
| Cucumbers | 100.0 | 147.4 | 308.0 | (1) | 870.3 | (1) |
| Green Peas | 100.0 | 76.3 | 79.5 | (1) | 148.0 | (1) |
| Spinach | 100.0 | 260.7 | 408.9 | (1) | 887.7 | (1) |
| Tomatoes | 100.0 | 98.0 | 133.2 | 121.3 | 128.3 | 139.7 |
| | VALUE OF SPECIFIED VEGETABLE CROPS | | | | | |
| Asparagus | (1) | 57.8 | 100.0 | (1) | 399.0 | (1) |
| Snap or string beans | (1) | 29.8 | 100.0 | (1) | 266.2 | (1) |
| Cabbages | (1) | 58.0 | 100.0 | (1) | 62.4 | (1) |
| Cantaloupes | (1) | 43.3 | 100.0 | (1) | 150.5 | (1) |
| Sweet Corn | (1) | 21.9 | 100.0 | (1) | 79.6 | (1) |
| Cucumbers | (1) | 23.7 | 100.0 | (1) | 235.5 | (1) |
| Green Peas | (1) | 51.1 | 100.0 | (1) | 157.2 | (1) |
| Spinach | (1) | 33.7 | 100.0 | (1) | 303.3 | (1) |
| Tomatoes | (1) | 47.5 | 100.0 | (1) | 110.4 | (1) |
| Total | (1) | 40.9 | 100.0 | (1) | 126.2 | (1) |

RATIO OF VEGETABLE CROP ACREAGE TO
TOTAL CROP LAND HARVESTED

| | | |
|---|---|---|
| The State | 8.9 | 9.5 |
| Baltimore County | 15.9 | 19.0 |

(1) Not reported in Census of Agriculture

EXHIBIT 18

ECONOMIC STUDIES OF MARYLAND - PART V

STATE TRENDS IN ACREAGE, PRODUCTION AND VALUE OF SPECIFIED GRAIN CROPS, POTATOES AND TOBACCO

| | 1909 | 1919 | 1924 | 1929 | 1934 |
|---|---|---|---|---|---|
| | | TABLE 1 - GRAIN CROP ACREAGES | | | |
| Total | 100.0 | 103.5 | 78.7 | 79.1 | 72.1 |
| Corn | 100.0 | 95.7 | 74.3 | 71.6 | 69.7 |
| Wheat | 100.0 | 112.6 | 82.2 | 85.9 | 69.2 |
| Oats | 100.0 | 99.3 | 81.6 | 84.8 | 69.6 |
| Barley | 100.0 | 86.5 | 239.9 | 218.8 | 820.4 |
| | | PRODUCTION (Bushels) | | | |
| Total | 100.0 | 111.2 | 78.4 | 87.5 | 79.5 |
| Corn | 100.0 | 117.7 | 74.5 | 81.2 | 73.2 |
| Wheat | 100.0 | 101.7 | 81.0 | 96.1 | 80.5 |
| Oats | 100.0 | 93.3 | 101.1 | 100.4 | 93.6 |
| Barley | 100.0 | 82.1 | 213.0 | 211.3 | 732.4 |
| | | VALUE (Dollars) | | | |
| Total | 100.0 | 256.1 | 127.7 | 115.8 | 89.4 |
| Corn | 100.0 | 296.7 | 143.0 | 120.8 | 99.9 |
| Wheat | 100.0 | 216.2 | 109.0 | 108.9 | 71.8 |
| Oats | 100.0 | 176.0 | 128.8 | 111.4 | 100.3 |
| Barley | 100.0 | 182.5 | 327.7 | 308.5 | 738.8 |
| | | TABLE 2 - TOBACCO | | | |
| Acreage | 100.0 | 125.3 | 131.4 | 124.7 | 128.3 |
| Pounds Produced | 100.0 | 97.1 | 125.9 | 121.2 | 139.0 |
| Value (Dollars) | 100.0 | 392.6 | 428.0 | 401.2 | 323.4 |
| | | TABLE 3 - POTATOES - IRISH AND SWEET | | | |
| Acreage | 100.0 | 120.7 | 91.4 | 82.4 | 86.6 |
| Bushels Produced | 100.0 | 141.3 | 96.4 | 110.8 | 96.5 |
| Value (Dollars) | 100.0 | 545.0 | 185.1 | 274.0 | 114.2 |

ECONOMIC STUDIES OF MARYLAND - PART V

TRENDS IN GRAIN LAND HARVESTED (Acres) - IN ECONOMIC SECTIONS

| Section | Acreage 1909 | Percent of 1909 Acreage 1909 | 1919 | 1924 | 1929 | 1934 | Decline, 1909-1934 Acres | % |
|---|---|---|---|---|---|---|---|---|
| | | | | ALL GRAINS | | | | |
| Io1 | 571,761 | 100.0 | 91.0 | 74.7 | 74.0 | 68.8 | 178,273 | 31.2 |
| Io2 | 119,638 | 100.0 | 97.9 | 72.5 | 73.9 | 67.9 | 38,361 | 32.1 |
| Io8 | 281,543 | 100.0 | 100.6 | 85.1 | 85.0 | 76.2 | 67,122 | 23.8 |
| Io9 | 90,555 | 100.0 | 102.2 | 79.1 | 84.1 | 81.1 | 17,112 | 18.9 |
| Io11 | 164,413 | 100.0 | 100.7 | 73.3 | 77.5 | 66.0 | 55,940 | 33.4 |
| H-5 | 48,135 | 100.0 | 87.5 | 55.8 | 63.9 | 69.7 | 14,566 | 30.3 |
| I-2 | 76,763 | 100.0 | 94.2 | 64.3 | 65.6 | 63.3 | 28,206 | 36.7 |
| I-3 | 60,783 | 100.0 | 101.7 | 68.2 | 65.6 | 56.0 | 26,755 | 44.0 |
| Total | 1,413,591 | 100.0 | 95.9 | 75.2 | 76.1 | 69.8 | 426,335 | 30.2 |
| | | | | CORN | | | | |
| Io1 | 197,685 | 100.0 | 96.6 | 83.4 | 84.2 | 81.5 | 36,552 | 18.5 |
| Io2 | 52,604 | 100.0 | 95.4 | 80.6 | 76.0 | 74.5 | 13,403 | 25.5 |
| Io8 | 115,289 | 100.0 | 97.0 | 88.2 | 76.8 | 77.4 | 26,025 | 27.6 |
| Io9 | 64,314 | 100.0 | 91.1 | 74.0 | 72.5 | 74.8 | 16,182 | 25.2 |
| Io11 | 116,442 | 100.0 | 97.5 | 78.8 | 77.6 | 69.2 | 35,818 | 30.8 |
| H-5 | 15,361 | 100.0 | 89.4 | 71.9 | 79.1 | 84.7 | 2,354 | 15.3 |
| I-2 | 36,305 | 100.0 | 93.0 | 62.4 | 65.8 | 61.8 | 13,882 | 38.2 |
| I-3 | 48,984 | 100.0 | 93.3 | 67.0 | 62.2 | 54.2 | 22,444 | 45.8 |
| Total | 646,984 | 100.0 | 95.5 | 79.0 | 77.1 | 74.2 | 166,660 | 25.8 |
| | | | | WHEAT | | | | |
| Io1 | 269,141 | 100.0 | 114.9 | 86.7 | 83.9 | 69.7 | 81,484 | 30.3 |
| Io2 | 51,080 | 100.0 | 109.9 | 71.2 | 76.6 | 60.3 | 20,273 | 39.7 |
| Io8 | 163,445 | 100.0 | 102.9 | 82.1 | 90.4 | 71.9 | 45,970 | 28.1 |
| Io9 | 25,314 | 100.0 | 120.5 | 86.6 | 108.1 | 81.3 | 4,726 | 18.7 |
| Io11 | 34,943 | 100.0 | 131.7 | 74.9 | 94.1 | 65.8 | 11,955 | 34.2 |
| H-5 | 6,650 | 100.0 | 136.5 | 60.9 | 64.7 | 84.3 | 1,047 | 15.7 |
| I-2 | 30,840 | 100.0 | 101.4 | 67.5 | 66.0 | 52.9 | 14,521 | 47.1 |
| I-3 | 8,450 | 100.0 | 157.4 | 89.3 | 103.4 | 78.1 | 1,853 | 21.9 |
| Total | 589,863 | 100.0 | 112.5 | 82.1 | 85.9 | 69.2 | 181,829 | 30.8 |
| | | | | OATS | | | | |
| Io1 | 10,343 | 100.0 | 98.7 | 129.6 | 123.1 | 91.0 | 929 | 9.0 |
| Io2 | 10,206 | 100.0 | 99.7 | 69.8 | 82.0 | 64.6 | 3,612 | 35.4 |
| Io8 | 1,944 | 100.0 | 59.5 | 96.9 | 83.7 | 103.4 | + 67 | + 3.4 |
| Io9 | 395 | 100.0 | 208.6 | 61.3 | 65.1 | 108.4 | + 33 | + 8.4 |
| Io11 | 3,323 | 100.0 | 59.0 | 16.5 | 19.0 | 27.8 | 2,399 | 72.2 |
| H-5 | 14,780 | 100.0 | 120.2 | 74.6 | 90.2 | 90.4 | 1,444 | 9.6 |
| I-2 | 6,376 | 100.0 | 88.2 | 57.0 | 70.3 | 83.1 | 1,077 | 16.9 |
| I-3 | 1,843 | 100.0 | 57.5 | 30.2 | 15.9 | 27.3 | 1,340 | 72.7 |
| Total | 49,210 | 100.0 | 99.1 | 78.1 | 84.8 | 78.3 | 10,671 | 21.7 |

EXHIBIT 18a cont'd.

ECONOMIC STUDIES OF MARYLAND - PART V

TRENDS IN GRAIN LAND HARVESTED (Acres) - IN ECONOMIC SECTIONS

| Section | Acreage 1909 | Percent of 1909 Acreage 1909 | 1919 | 1924 | 1929 | 1934 | Decline, 1909-1934 Acres | % |
|---|---|---|---|---|---|---|---|---|
| | | | | RYE | | | | |
| Io1 | 18,059 | 100.0 | 42.7 | 43.6 | 63.6 | 58.3 | 6,565 | 41.7 |
| Io2 | 5,748 | 100.0 | 8.1 | 7.7 | 3.3 | 10.9 | 5,121 | 89.1 |
| Io8 | 865 | 100.0 | 234.7 | 110.5 | 72.7 | 207.3 | + 928 | + 107.3 |
| Io9 | 532 | 100.0 | 497.9 | 345.3 | 341.7 | 772.6 | + 3,578 | + 672.6 |
| Io11 | 9,705 | 100.0 | 40.4 | 19.6 | 31.4 | 36.7 | 6,141 | 63.3 |
| H-5 | 11,344 | 100.0 | 12.6 | 5.8 | 6.0 | 8.8 | 10,343 | 91.2 |
| I-2 | 3,242 | 100.0 | 35.9 | 13.4 | 8.3 | 25.4 | 2,419 | 74.6 |
| I-3 | 1,506 | 100.0 | 112.7 | 34.7 | 18.5 | 12.9 | 1,311 | 87.1 |
| Total | 51,001 | 100.0 | 41.3 | 28.6 | 36.1 | 44.1 | 32,592 | 65.9 |

| Section | Acreage 1919 | Percent of 1919 Acreage 1919 | 1924 | 1929 | 1934 | Increase, 1919-1934 Acres | % |
|---|---|---|---|---|---|---|---|
| | | | BARLEY * | | | | |
| Io1 | 2,911 | 100.0 | 251.2 | 226.2 | 842.8 | 21,622 | 742.8 |
| Io2 | 161 | 100.0 | 244.7 | 418.0 | 2,487.6 | 3,844 | 2,387.6 |
| Io8 | 100 | 100.0 | 963.0 | 705.0 | 3,804.0 | 3,704 | 3,704.0 |
| Io9 | 26 | 100.0 | 107.7 | 200.0 | 711.5 | 159 | 611.5 |
| Io11 | 57 | 100.0 | 143.9 | 187.7 | 649.1 | 313 | 549.1 |
| H-5 | 129 | 100.0 | 62.0 | 230.2 | 117.8 | 23 | 17.8 |
| I-2 | 444 | 100.0 | 415.5 | 300.0 | 827.0 | 3,228 | 727.0 |
| I-3 | 60 | 100.0 | 33.5 | 130.0 | 238.3 | 83 | 138.3 |
| Total | 3,888 | 100.0 | 275.8 | 252.8 | 948.1 | 32,976 | 848.1 |

* Barley acreage was not reported in 1909.

EXHIBIT 19

ECONOMIC STUDIES OF MARYLAND - PART V

FARM VALUES AND MORTGAGE DEBT - FULL OWNER OPERATED FARMS - 1910 -'20 -'30

| | Average Value Per Farm | | | Average Mortgage Per Farm | | | Average Value Per Acre | | | Average Mortgage Per Acre | | | Ratio of Mortgage to Value | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 |
| U.S. | $6289 | $11546 | $8997 | $1715 | $3356 | $3561 | $41.4 | $71.1 | $61.1 | $11.3 | $20.7 | $24.2 | 27.5 | 29.1 | 39.6 |
| Md. | 4129 | 7215 | 7948 | 1457 | 2641 | 3123 | 47.6 | 86.1 | 84.5 | 16.8 | 31.5 | 33.2 | 35.3 | 36.6 | 39.3 |
| IN MARYLAND COUNTIES AND ECONOMIC SECTIONS | | | | | | | | | | | | | | | |
| Carroll | 3484 | 6242 | 5757 | 1487 | 2307 | 2802 | 51.8 | 94.0 | 73.4 | 22.1 | 34.8 | 35.7 | 42.7 | 37.0 | 48.7 |
| Frederick | 4545 | 7701 | 7365 | 1892 | 3110 | 3773 | 58.2 | 103.2 | 79.5 | 24.2 | 41.7 | 40.7 | 41.6 | 40.4 | 51.2 |
| Howard | 4863 | 8538 | 9877 | 1724 | 3077 | 3899 | 50.8 | 90.8 | 88.5 | 18.0 | 32.7 | 34.9 | 35.4 | 36.0 | 39.5 |
| Montgomery | 6150 | 12350 | 15844 | 2014 | 3901 | 5193 | 61.8 | 115.8 | 131.4 | 20.2 | 36.6 | 43.1 | 32.7 | 31.6 | 32.8 |
| Washington | 4727 | 8388 | 6556 | 1762 | 3009 | 5540 | 66.5 | 120.5 | 96.7 | 24.8 | 43.5 | 49.3 | 37.3 | 36.1 | 50.9 |
| Sec. Io1 | 4593 | 8284 | 8569 | 1757 | 2997 | 3709 | 57.2 | 105.0 | 94.0 | 21.9 | 38.0 | 40.6 | 38.3 | 36.2 | 43.2 |
| Cecil | 3857 | 6086 | 7875 | 1546 | 2183 | 3251 | 50.4 | 83.6 | 78.1 | 20.2 | 30.0 | 32.2 | 40.1 | 35.9 | 41.3 |
| Harford | 3551 | 7737 | 8774 | 1350 | 2467 | 3314 | 43.2 | 93.7 | 100.8 | 16.4 | 29.9 | 38.1 | 38.0 | 31.9 | 37.8 |
| Sec. Io2 | 3645 | 7194 | 8473 | 1410 | 2374 | 3293 | 47.3 | 90.9 | 92.3 | 18.3 | 30.0 | 35.9 | 38.7 | 33.0 | 38.9 |
| Caroline | 3264 | 5368 | 4479 | 1201 | 2273 | 2155 | 44.0 | 74.5 | 59.8 | 16.2 | 31.5 | 28.5 | 36.8 | 42.3 | 48.1 |
| Kent | 6546 | 12802 | 9540 | 2474 | 5612 | 4640 | 63.2 | 112.7 | 56.5 | 23.9 | 52.3 | 27.5 | 37.8 | 46.4 | 48.6 |
| Queen Annes | 4784 | 8551 | 7341 | 1763 | 3929 | 3239 | 46.1 | 84.7 | 61.8 | 17.0 | 38.9 | 27.3 | 36.9 | 45.9 | 44.1 |
| Talbot | 6395 | 11091 | 11398 | 2211 | 4564 | 4467 | 65.0 | 113.1 | 93.8 | 22.5 | 46.6 | 36.8 | 34.6 | 41.2 | 39.2 |
| Sec. Io8 | 4839 | 8092 | 7243 | 1752 | 3522 | 3218 | 53.9 | 91.5 | 67.6 | 19.5 | 39.8 | 30.0 | 36.2 | 43.5 | 44.4 |

(Continued on Page 34)

EXHIBIT 19 cont'd.

ECONOMIC STUDIES OF MARYLAND - PART V

FARM VALUES AND MORTGAGE DEBT - FULL OWNER OPERATED FARMS - 1910 -'20 -'30

| | Average Value Per Farm | | | Average Mortgage Per Farm | | | Average Value Per Acre | | | Average Mortgage Per Acre | | | Ratio of Mortgage to Value | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 |
| Dorchester | $3164 | $7796 | $7178 | $1100 | $3248 | $5505 | $33.9 | $88.5 | $66.1 | $11.8 | $36.9 | $30.5 | 34.8 | 41.7 | 46.0 |
| Wicomico | 2323 | 4077 | 4876 | 721 | 1391 | 1918 | 33.5 | 64.8 | 72.2 | 10.4 | 22.1 | 28.4 | 31.0 | 34.1 | 39.3 |
| Sec. Io9 | 2721 | 5857 | 5851 | 901 | 2279 | 2505 | 34.1 | 80.5 | 68.9 | 11.3 | 31.3 | 29.5 | 33.1 | 38.9 | 42.8 |
| Calvert | 1682 | 3970 | 5248 | 534 | 1294 | 1706 | 18.0 | 43.6 | 50.6 | 5.7 | 14.2 | 16.4 | 31.7 | 32.6 | 32.5 |
| Charles | 2689 | 5563 | 6728 | 700 | 1533 | 2340 | 21.5 | 51.1 | 43.2 | 5.6 | 14.1 | 15.0 | 26.0 | 27.6 | 34.8 |
| St. Mary's | 3032 | 4653 | 6897 | 797 | 1511 | 2205 | 27.8 | 48.0 | 54.9 | 7.3 | 15.6 | 17.5 | 26.3 | 32.5 | 32.0 |
| Somerset | 3283 | 6476 | 5648 | 949 | 2186 | 2298 | 47.4 | 91.1 | 68.6 | 13.7 | 30.8 | 27.9 | 28.9 | 33.8 | 40.7 |
| Worcester | 2194 | 5269 | 4500 | 839 | 2118 | 1967 | 24.9 | 63.2 | 52.5 | 9.5 | 25.4 | 22.9 | 38.2 | 40.2 | 43.7 |
| Sec. Ioll | 2685 | 5502 | 5632 | 809 | 1884 | 2140 | 28.6 | 62.0 | 53.9 | 8.6 | 21.2 | 20.5 | 30.1 | 34.2 | 38.0 |
| Baltimore | 5546 | 7672 | 12064 | 1761 | 3013 | 3940 | 82.6 | 113.2 | 177.9 | 26.2 | 44.5 | 57.8 | 31.7 | 39.3 | 32.7 |
| Sec. I-2 | | | | | | | | | | | | | | | |
| Anne Arundel | 4297 | 6733 | 8268 | 1309 | 1996 | 2638 | 49.7 | 89.9 | 110.0 | 15.2 | 26.6 | 35.1 | 30.6 | 29.6 | 31.9 |
| Prince Georges | 4883 | 7105 | 9819 | 1383 | 2384 | 3183 | 55.8 | 88.4 | 123.6 | 15.8 | 29.7 | 40.1 | 28.3 | 33.6 | 32.4 |
| Sec. I-3 | 4574 | 6919 | 9091 | 1345 | 2190 | 2928 | 52.7 | 89.0 | 117.4 | 15.5 | 28.2 | 37.8 | 29.4 | 31.7 | 32.2 |
| Allegany | 3713 | 5839 | 6041 | 1265 | 1977 | 2265 | 24.6 | 42.6 | 45.1 | 8.4 | 14.3 | 16.9 | 34.1 | 33.6 | 37.5 |
| Garrett | 2729 | 4261 | 4825 | 933 | 1368 | 1615 | 22.5 | 31.8 | 36.4 | 7.7 | 10.2 | 12.2 | 34.2 | 32.1 | 33.5 |
| Sec. H-5 | 3014 | 4767 | 5202 | 1029 | 1557 | 1816 | 23.1 | 35.2 | 39.3 | 7.9 | 11.5 | 13.7 | 34.2 | 32.7 | 34.9 |

Average Values Per Farm and Per Acre = Value of farm land and buildings as reported in the Census of Agriculture.

EXHIBIT 19a

ECONOMIC STUDIES OF MARYLAND - PART V

FARM VALUES AND MORTGAGE DEBT - FULL OWNER OPERATED FARMS - 1910-'20-'30

TREND INDEXES AND RATES OF CHANGE (Percent increase or decrease)

| | Average Value Per Farm | | | Average Mortgage Per Farm | | | Average Value Per Acre | | | Average Mortgage Per Acre | | | Ratio of Mortgage to Value | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 | 1910 | 1920 | 1930 |
| | TREND INDEXES - 1910 = 100 | | | | | | | | | | | | | | |
| U.S. | 100.0 | 183.6 | 143.0 | 100.0 | 195.7 | 207.6 | 100.0 | 171.7 | 147.6 | 100.0 | 183.2 | 214.1 | 100.0 | 106.0 | 145.0 |
| Md. | 100.0 | 174.7 | 192.5 | 100.0 | 181.3 | 214.3 | 100.0 | 180.9 | 177.5 | 100.0 | 187.5 | 197.6 | 100.0 | 103.7 | 111.3 |
| | DECADAL RATES OF CHANGE (Percent increase or decrease) | | | | | | | | | | | | | | |
| U.S. | | 83.6 | -22.2 | | 95.7 | 6.1 | | 71.7 | -14.1 | | 83.2 | 16.9 | | 6.6 | 36.1 |
| Md. | | 74.7 | 10.1 | | 81.3 | 18.2 | | 80.9 | - 1.9 | | 87.8 | 5.4 | | 3.7 | 8.3 |
| | IN ECONOMIC SECTIONS OF MARYLAND | | | | | | | | | | | | | | |
| Section | TREND INDEXES - 1910 = 100 | | | | | | | | | | | | | | |
| I o 1 | 100.0 | 180.4 | 186.6 | 100.0 | 170.6 | 211.1 | 100.0 | 183.6 | 164.3 | 100.0 | 173.5 | 185.4 | 100.0 | 94.5 | 112.8 |
| I o 2 | 100.0 | 197.4 | 232.4 | 100.0 | 168.4 | 233.5 | 100.0 | 192.2 | 195.1 | 100.0 | 163.9 | 196.2 | 100.0 | 85.3 | 100.5 |
| I o 8 | 100.0 | 167.2 | 149.7 | 100.0 | 201.0 | 183.7 | 100.0 | 169.7 | 125.4 | 100.0 | 204.1 | 155.8 | 100.0 | 120.2 | 122.6 |
| I o 9 | 100.0 | 215.2 | 215.0 | 100.0 | 252.9 | 278.0 | 100.0 | 236.1 | 202.0 | 100.0 | 312.7 | 258.5 | 100.0 | 117.5 | 129.3 |
| I o 11 | 100.0 | 204.9 | 209.7 | 100.0 | 232.9 | 264.5 | 100.0 | 216.8 | 188.5 | 100.0 | 246.5 | 238.4 | 100.0 | 113.6 | 126.2 |
| I - 2 | 100.0 | 138.3 | 217.5 | 100.0 | 171.1 | 223.7 | 100.0 | 137.0 | 215.4 | 100.0 | 169.8 | 220.6 | 100.0 | 124.0 | 103.1 |
| I - 3 | 100.0 | 151.3 | 198.7 | 100.0 | 162.8 | 217.7 | 100.0 | 168.9 | 222.8 | 100.0 | 181.9 | 243.9 | 100.0 | 107.8 | 109.5 |
| H - 5 | 100.0 | 158.2 | 172.6 | 100.0 | 151.3 | 176.5 | 100.0 | 152.4 | 171.0 | 100.0 | 145.6 | 173.4 | 100.0 | 95.6 | 102.0 |
| Section | DECADAL RATES OF CHANGE (Percent increase or decrease) | | | | | | | | | | | | | | |
| I o 1 | | 80.4 | 3.4 | | 70.6 | 23.7 | | 83.6 | -10.5 | | 73.5 | 6.8 | | - 5.5 | 19.3 |
| I o 2 | | 97.4 | 17.8 | | 68.4 | 38.7 | | 92.2 | 1.5 | | 63.9 | 19.7 | | -14.7 | 17.9 |
| I o 8 | | 67.2 | -10.5 | | 101.0 | - 8.6 | | 69.7 | -26.1 | | 104.1 | -24.6 | | 20.2 | 2.1 |
| I o 9 | | 115.2 | - 0.1 | | 152.9 | 9.9 | | 136.1 | -14.4 | | 212.7 | -17.4 | | 17.5 | 10.0 |
| I o 11 | | 104.9 | 2.4 | | 132.9 | 13.6 | | 116.8 | -13.1 | | 146.5 | - 3.3 | | 13.6 | 11.1 |
| I - 2 | | 38.3 | 57.2 | | 71.1 | 30.8 | | 37.0 | 57.1 | | 69.8 | 29.9 | | 24.0 | -16.8 |
| I - 3 | | 51.3 | 31.4 | | 62.8 | 33.7 | | 68.9 | 31.9 | | 81.9 | 34.0 | | 7.8 | 1.6 |
| H - 5 | | 58.2 | 9.1 | | 51.3 | 16.6 | | 52.4 | 12.2 | | 45.6 | 19.1 | | - 4.4 | 6.7 |

NOTE: - In Decadal Rates of Change, decreases are shown by minus sign; all others are increases.

ECONOMIC STUDIES OF MARYLAND - PART V

AVERAGE FARM REAL ESTATE TAXES PER ACRE
UNITED STATES AND MARYLAND - 1913 to 1937 (1)

| Cents Per Acre | | | | | | Trend Indexes - 1913 = 100 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | U.S. | Md. | Year | U.S. | Md. | Year | U.S. | Md. | Year | U.S. | Md. |
| 1913 | 24 | 38 | 1926 | 56 | 89 | 1913 | 100 | 100 | 1926 | 233 | 234 |
| 1914 | 24 | 41 | 1927 | 57 | 90 | 1914 | 100 | 108 | 1927 | 238 | 237 |
| 1915 | 26 | 42 | 1928 | 58 | 92 | 1915 | 108 | 111 | 1928 | 242 | 242 |
| 1916 | 28 | 47 | 1929 | 58 | 92 | 1916 | 117 | 124 | 1929 | 242 | 242 |
| 1917 | 31 | 48 | 1930 | 57 | 93 | 1917 | 129 | 126 | 1930 | 238 | 245 |
| 1918 | 33 | 58 | 1931 | 53 | 90 | 1918 | 138 | 153 | 1931 | 221 | 237 |
| 1919 | 41 | 60 | 1932 | 46 | 85 | 1919 | 171 | 158 | 1932 | 192 | 224 |
| 1920 | 51 | 72 | 1933 | 39 | 66 | 1920 | 213 | 189 | 1933 | 163 | 174 |
| 1921 | 54 | 71 | 1934 | 37 | 61 | 1921 | 225 | 187 | 1934 | 154 | 161 |
| 1922 | 54 | 76 | 1935 | 37 | 66 | 1922 | 225 | 200 | 1935 | 154 | 174 |
| 1923 | 55 | 81 | 1936 | 38 | 69 | 1923 | 229 | 213 | 1936 | 158 | 182 |
| 1924 | 55 | 85 | 1937 | 39 | 71 | 1924 | 229 | 224 | 1937 | 162 | 187 |
| 1925 | 56 | 88 | 1938 | 39 | 73 | 1925 | 233 | 232 | 1928 | 162 | 192 |

RELATIONSHIP BETWEEN AVERAGE FARM REAL ESTATE TAXES,
VALUE OF FARM REAL ESTATE AND CASH FARM INCOME
UNITED STATES AND MARYLAND - 1924 to 1937 (1)

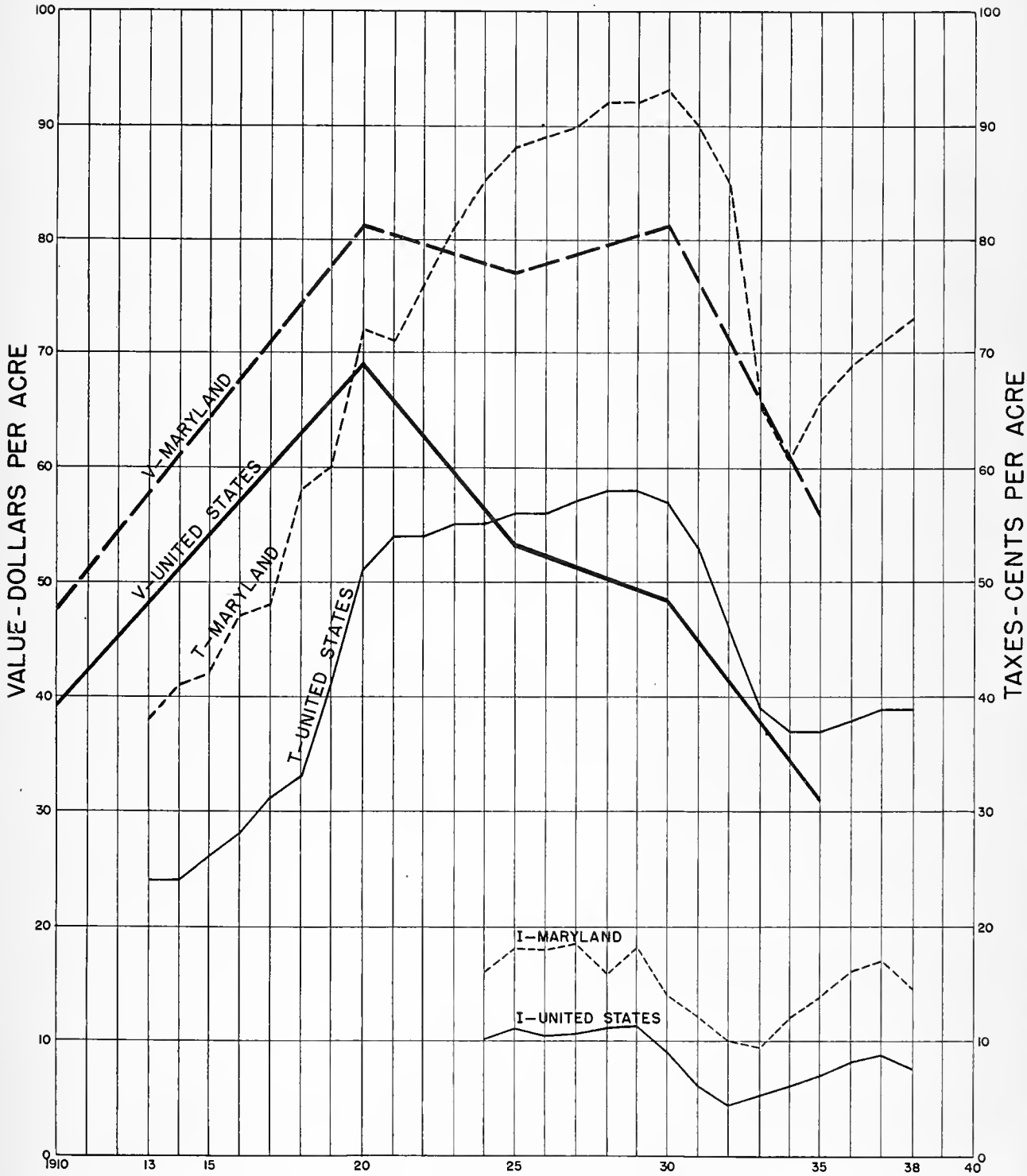
| | Farm Real Estate Value Per Acre | | Cash Farm Income Dollars Per Acre | | Farm Real Estate Taxes Cents Per Acre | |
|---|---|---|---|---|---|---|
| | U.S. | Md. | U.S. | Md. | U.S. | Md. |
| 1910 | $ 39.6 | $ 47.8 | | | | |
| 1920 | 69.4 | 81.2 | | | | |
| 1924 | | | $ 10.3 | $ 16.2 | 55 | 85 |
| 1925 | 53.5 | 77.0 | 11.0 | 18.0 | 56 | 88 |
| 1926 | | | 10.6 | 17.9 | 56 | 89 |
| 1927 | | | 10.8 | 18.6 | 57 | 90 |
| 1928 | | | 11.1 | 15.9 | 58 | 92 |
| 1929 | | | 11.3 | 18.3 | 58 | 92 |
| 1930 | 48.5 | 81.4 | 9.0 | 14.2 | 57 | 93 |
| 1931 | | | 6.4 | 12.2 | 53 | 90 |
| 1932 | | | 4.7 | 10.0 | 46 | 85 |
| 1933 | | | 5.3 | 9.6 | 39 | 66 |
| 1934 | | | 6.3 | 12.2 | 37 | 61 |
| 1935 | 31.2 | 55.9 | 7.0 | 13.9 | 37 | 66 |
| 1936 | | | 8.3 | 16.2 | 38 | 69 |
| 1937 | | | 8.8 | 17.1 | 39 | 71 |
| 1938 | | | 7.7 | 14.7 | 39 | 73 |

(1) Data from U. S. Department of Agriculture, Bureau of Agricultural Economics.

EXHIBIT-20A

# ECONOMIC STUDIES OF MARYLAND-PART V.

GRAPHS FOR EXHIBIT-20



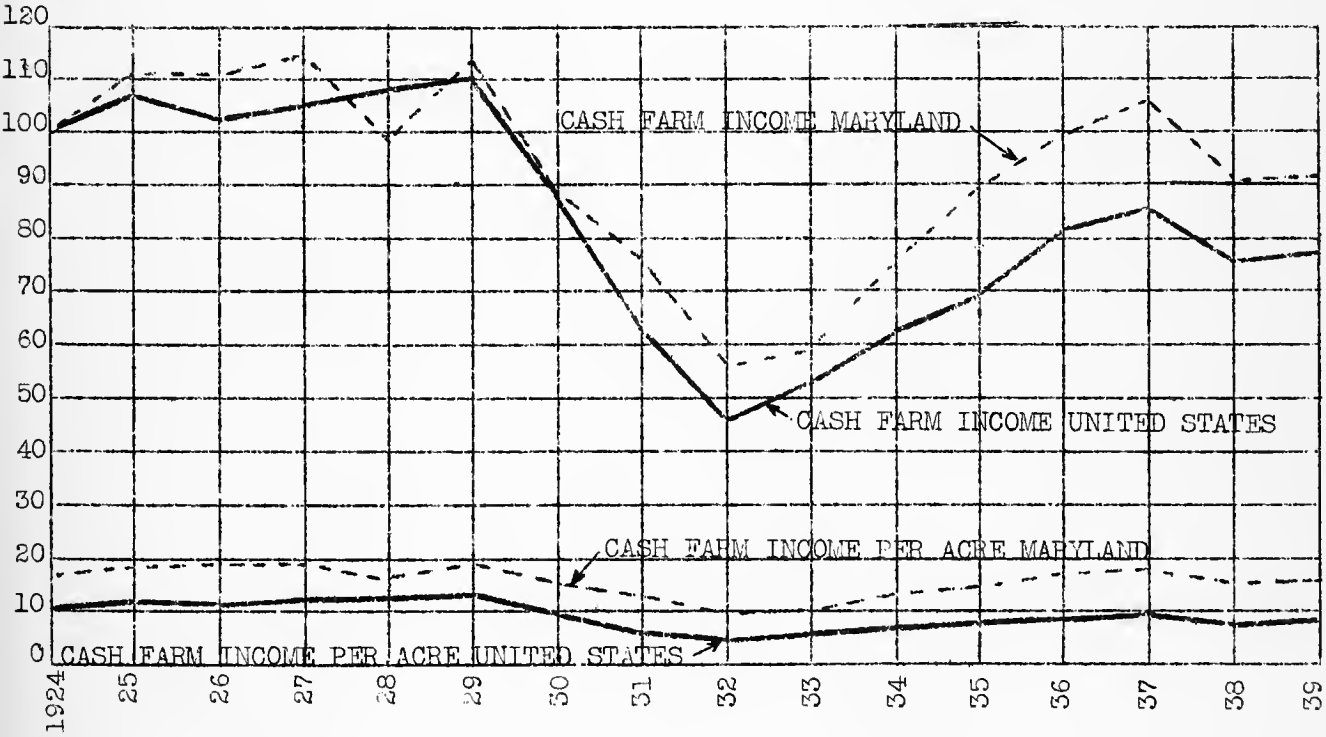

V-U.S.: Average U.S. value of farm real estate (Dollars per Acre)
V-MD.: Average MD. value of farm real estate (Dollars per Acre)
T-U.S.: Average U.S. farm real estate tax (Cents per Acre)
T-MD.: Average MD. farm real estate tax (Cents per Acre)
I-U.S.: Average U.S. cash farm income (Dollars per Acre)
I-MD.: Average MD. cash farm income (Dollars per Acre)

EXHIBIT 21

ECONOMIC STUDIES OF MARYLAND - PART V

CASH FARM INCOME EXCLUSIVE OF GOVERNMENT PAYMENTS
UNITED STATES AND MARYLAND - 1924 to 1939 (1)

| | CASH FARM INCOME | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | | | | Per Acre (2) | | | |
| | United States | | Maryland | | United States | | Maryland | |
| | Millions of Dollars | % of 1924 | Thousands of Dollars | % of 1924 | Dollars | % of 1924 | Dollars | % of 1924 |
| 1924 | 10,150 | 100.0 | 71,404 | 100.0 | 10.27 | 100.0 | 16.24 | 100.0 |
| 1925 | 10,927 | 107.8 | 79,016 | 110.7 | 11.05 | 107.7 | 17.97 | 110.7 |
| 1926 | 10,529 | 103.7 | 78,938 | 110.6 | 10.65 | 103.7 | 17.95 | 110.5 |
| 1927 | 10,699 | 105.4 | 81,800 | 114.6 | 10.82 | 105.4 | 18.60 | 114.6 |
| 1928 | 11,024 | 108.6 | 69,962 | 98.0 | 11.15 | 108.6 | 15.91 | 98.0 |
| 1929 | 11,221 | 110.6 | 80,441 | 112.7 | 11.35 | 110.5 | 18.29 | 112.7 |
| 1930 | 8,883 | 87.5 | 62,407 | 87.4 | 9.00 | 87.5 | 14.19 | 87.4 |
| 1931 | 6,283 | 61.9 | 53,750 | 75.3 | 6.36 | 61.9 | 12.24 | 75.3 |
| 1932 | 4,682 | 46.1 | 40,002 | 56.0 | 4.74 | 46.1 | 9.10 | 56.0 |
| 1933 | 5,278 | 52.0 | 42,153 | 59.0 | 5.34 | 52.0 | 9.59 | 59.0 |
| 1934 | 6,273 | 61.8 | 53,753 | 75.3 | 6.35 | 61.8 | 12.22 | 75.3 |
| 1935 | 6,969 | 68.7 | 61,130 | 85.6 | 7.05 | 68.7 | 13.90 | 85.6 |
| 1936 | 8,212 | 80.9 | 71,057 | 99.5 | 8.31 | 80.9 | 16.16 | 99.5 |
| 1937 | 8,744 | 86.1 | 75,070 | 105.1 | 8.84 | 86.1 | 17.07 | 105.1 |
| 1938 | 7,599 | 74.9 | 64,675 | 90.6 | 7.69 | 74.9 | 14.71 | 90.6 |
| 1939 | 7,711 | 76.0 | 64,810 | 90.8 | 7.80 | 76.0 | 14.74 | 90.8 |




(1) Sources of Data - U.S. Department of Agriculture, Bureau of Agricultural Economics.

(2) Cash Farm Income Per Acre = Cash Farm Income divided by average (1925-'30-'35 acreage) of all farms.

# ECONOMIC STUDIES OF MARYLAND

## PART VI

## INTERPRETATIONS

## OF

## THE STATISTICAL DATA OF PART V

# ECONOMIC STUDIES OF MARYLAND

## PART VI

## Chapter 1

## POPULATION CHANGES IN THE AGRICULTURAL SECTIONS OF MARYLAND

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Industrial development in Maryland has had such great influences on the Agricultural Sections of the State, that no interpretation of population changes in these sections can be complete without relating population changes in the Agricultural Sections to those in the State as a whole, and in the Industrial Sections. Some of the Agricultural Sections were affected, not only by industrial expansion in the Industrial Sections but also by a considerable amount of industrial development within the Agricultural Section. This is particularly evident in Sections Iol and Io9.

Exhibit 10, Part V, relates to population trends and decadal rates of change, for total white and colored populations in the State, the Industrial Sections collectively (Urban and Rural Industrial), and in the Rural Agricultural Sections collectively. Population changes in Montgomery County of Section Iol and in Baltimore City are also included in this exhibit.

Exhibit 10a, Part V, relates to the population trends and decadal rates of change, for total white and colored populations in the individual Agricultural Sections. The population changes for white and colored populations were developed due to the exceptional shifts in colored population from the Agricultural to Industrial Sections during the period of rapid expansion of manufacturing in the State.

The tabulated population change statistics, of Exhibits 10 and 10a, are shown graphically in Exhibit 11.

In Exhibit 12, Part V, statistical material has been presented to show distribution of the population by kind of residence (Urban, Rural, Rural Farm

and Rural Non-farm), and distribution of gainfully occupied persons by Service, Non-Service and Agricultural Occupations. These data are as of the 1930 Census which was the first census in which occupational data by counties were available. The data of this exhibit do not refer to change in the Agricultural Sections to which they refer, but do show characteristics of the economic structure of the sections, as of 1930, which helps materially to explain population changes and the influence industrial development has had on the changes.

In the 1870-'80 decade, following the Civil War, Maryland experienced a decadal rate of population increase of 19.7%, a rate which has not been attained in any subsequent decade. In this decade white and colored rates of increase were identical in the State as a whole. In the Industrial Sections, however, the colored rate of change was considerably higher than the white rate, while in the Agricultural Sections there was little difference in the white and colored rates of change. In this decade the Agricultural Sections, while contributing much less to the State's population increase than the Industrial Sections, made a greater proportional contribution than in any subsequent decade.

Following the 1870-'80 decade, the State's rate of population increase and that of the Industrial Sections collectively showed considerable stability. As contrasted with this the rate of population change in the Agricultural Sections collectively was very erratic and unstable, a moderate gain occurring in the 1890-1900 decade and in the 1920-'30 decade.

Contrasted with the stability of white population rate of change in the State following the 1870-'80 decade, the colored rate was very unstable and erratic. In the 1920-'30 decade the colored rate was slightly greater than the white. This was due to a great increase in the colored population of Baltimore.

As we examine data for the Industrial Sections collectively, we find the same stability of population rate of increase in total and white populations and wide variations in the colored rate, as was observed in the State. In the

1870-'80 and the 1920-'30 decades the colored rate of gain was considerably higher than the white rate; in the 1920-'30 decade it was almost double. The very low colored rates of gain for the 1880-'90 and 1900-'10 decades are not explainable by any migration back to Maryland farms in these decades as statistics for the Agricultural Sections show colored population declines. Related to 1870 the State's while population in 1930 had increased 182.9% as compared to an increase in colored population of 161.2%. The ratios of white and colored remained almost constant from 1870 to 1900. The colored ratio declined considerably in the next two decades but returned almost to its former level in the 1920-'30 decade.

The population trend indexes for the Rural Agricultural Sections collectively show a continuous population gain for the 1870-1930 period. The gains were small, however, after the 1870-'80 decade but show a considerable acceleration, particularly in white population gain in the 1920-'30 decade due to a substantial increase in suburban residence. Except for the 1870-'80 decade when there was a substantial increase in colored population and in the 1890-1900 decade when there was a relatively small increase, the Rural Agricultural Sections lost colored population steadily and this loss was high following 1900. The ratios of white and colored population changed continuously throughout the 1870-1930 period, the white percentage of total population increasing and the colored decreasing.

The percentage of the State's total population in the Industrial Sections increased continuously from 53.9% in 1870 to 72% in 1930. With respect to white population the percentage increased from 57.7% in 1870 to 72.9% in 1930 and for colored population the percent rose from 40.7% of the State's total colored in 1870 to 67.3% in 1930. Corresponding declines occurred in the percentages of total State populations in the Rural Agricultural Sections. The most notable change was in the colored population which in 1870 was divided 40.7% in the Industrial Sections and 59.3% in the Agricultural Sections while in 1930, 67.3% were in the Industrial and only 32.7% in the Agricultural Sections.

For the 1870-1930 period, the numerical increase in colored population in the Industrial Sections collectively was 115,232, while in the Rural Agricultural Sections collectively there was a decrease of 13,293. In the 1920-'30 decade there was an increase of 13% in the State's colored population, an increase of 27.3% in that of the Industrial Sections collectively and a decrease of 7.7% in that of the Rural Agricultural Sections collectively. The numerical increase in the State's colored population in this decade was 32,432.

Vital statistics relating to colored excess of births over deaths are available only for 1924 to 1930 inclusive. The average for the seven years was 1,339 per year. Applying this average to the decade, excess of births over deaths would have accounted for about 13,390 of the 32,432 increase. The balance 19,042 must have come from migration into the State from other states.

In the period of expansion of manufacturing in the Industrial Sections of the State (1900 to 1930), the Rural Agricultural Sections collectively made comparatively small gains in white population in the 1900-'10 and 1910-'20 decades, but a substantial gain (8.3%) in the 1920-'30 decade. There was a considerable loss of colored population throughout the period.

As we examine the individual Rural Agricultural Sections we find that the white population gain in the Rural Agricultural Sections collectively was due to gains in the three Rural Agricultural Sections having the highest industry occupations components, Sections Io1, Io2, and Io9. Sections Io8 and Io11 lost white population in the 1910 to 1930 period.

All the counties of Section Io8 and the Eastern Shore counties of Section Io11 are isolated from the Baltimore Industrial Area where most of the State's industrial development occurred. They did not experience population increases, such as occurred in counties closer to Baltimore and Washington, due to increased suburban residence following 1920.

The loss of colored population in the individual Rural Agricultural Sections was high except in Section Io9 where industrial development appears to have

lessened the exodus of colored people.

These related population changes very definitely indicate a continuous movement of rural population to the Industrial Sections of the State, this movement being particularly great from sections depending most on agriculture as an occupational pursuit and most particularly with respect to colored people who had little opportunity for employment in Agricultural Sections other than in farming either as tenants or farm labor.

The migration of farm laborers and particularly of colored farm laborers to Industrial centers has had very definite repercussions on labor supply and wages on farms, and on the mechanization of farms which was no doubt stimulated by shortage of cheap farm labor and resulted, in many cases, in mechanization to an extent not otherwise economically justified by the size of farms.

It has resulted in a change in the practice of people leaving the farm in times of high industrial activity and returning in times of depressed industrial activity. Farmers, having been, to a considerable extent, forced to mechanize and reduce dependence on hand labor, do not now absorb labor returning from Industrial centers, except for seasonal harvest work, and such labor's return to agriculture must be mostly through purchase of farms or farm renting or tenancy.

In the period following the Civil War many colored people, formerly working on farms as slaves were compelled to continue farming and many became tenants mostly on a share cropping basis. During the time of plentiful and cheap farm labor they were able to eke out a subsistence from such farming. With the advent of improved farming practices, farm machinery and the increasing requirements of fertilizer, as the soil became depleted, they were unable to compete and were compelled to seek employment in Industrial Sections. This no doubt had a beneficial effect on the Agricultural Sections due to the cutting up of some of the large farm tracts and sale of smaller farms to white owners. With the advent of mechanized farm equipment there has been some return to increased size of farms in recent years.

As we examine the population change statistics for the individual Rural Agricultural Sections, and relate these to the occupational characteristics of these sections, it is quite evident that industrial development within these sections and in adjacent Industrial Sections largely determined their population changes. Those Sections (Io1 and Io9) in which Industrial development was greatest, show the greatest population gains, while those in which there was little Industrial development or where it was of a character which was not expanding labor demand, showed low population gains or losses in recent decades.

Section Io9 which had the greatest percentage gain in population of any of the Agricultural Sections, while classed as Agricultural, due to being a small area in the whole Eastern Shore area where agriculture is very predominant, is in fact industrial according to our definition of an industrial section. It is the only section on the Eastern Shore in which there has been any industrial development of consequence and provides a good example of the beneficial influences of industrial development in an agricultural area, providing employment and income supplementary to that of agriculture. Section Io1 has a relatively high industrial component, 66.7% of the gainfully occupied being in industry (Service 44.9% and Non-Service 21.8%). Its high industrial component is largely due to the Services, and Montgomery County makes a large contribution to this, (see statistics for Montgomery County of Section Io1).

Suburban residence in Montgomery County, of Government employees working in Washington, accounts for the high Service component of this county.

Section Io2 also has a high industry component in its occupation (68.6%), of which the Services are outstanding, (49.4%). The services are to a large extent due to Federal Government operations, Aberdeen Proving Grounds, Edgewood Arsenal and Veterans Hospital. These do not change materially or expand in their labor requirements except in war periods.

Sections Io8 and Io11 have small Non-Service occupational components, 22.2% and 22.3% respectively; comparatively small Service components 33.6% and

29.3%, respectively and large Agriculture components 44.2% and 48.4%, respectively. Agricultural occupations are most predominant in these sections and both have experienced population declines in the past two decades.

Such Non-Service industrial occupations as are found in these two sections are largely in canning plants, where employment is largely seasonal, and in the fishing and oystering activities.

ECONOMIC STUDIES OF MARYLAND

PART VI

Chapter 2

# TRENDS IN FARM TENURE BY NUMBER OF FARMS, FARM ACREAGE, VALUE OF FARM LAND AND BUILDINGS

UNITED STATES AND MARYLAND
1900 to 1935 - 1900 = 100

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The increased tenant operation of farms and corresponding decrease in owner operated farms has been, for some time, a matter of considerable concern to Federal and State agencies interested in the future prospects of Agriculture in the Nation. The seriousness of this problem varies greatly over the country and it was deemed of interest to determine how Maryland compared with the Nation in respect to farm tenure. In Exhibit 13, page 20, Part V, trend indexes showing the change from 1900 to 1935 in number of farms, farm acreage and value of farm lands and buildings are presented for totals, owner or manager operated and tenant operated.

In Exhibit 13a farm tenure, with respect to number of farms, has been shown for the State as a whole, for the Economic Sections and for the counties comprising these Sections.

Exhibit 13b shows the changes graphically.

The changes in number and acreage of farms and farm tenure from 1900 to 1935 may be conveniently divided into four periods:

1900 to 1910 - Characterized by normal development of Agriculture without any exceptional stimulation other than a normal expansion of Industry in the Nation.

1910 to 1920 - Characterized by a highly stimulated war demand for Agricultural products and inflation of farm land values.

1920 to 1930 - Characterized by overproduction of farm products, lowered returns from farming and decline in value of farm lands.

1930 to 1935 - Characterized in the first few years by further decline in returns from farming and value of farm lands and later by artificial stimulation of farming due to Federal agricultural control and assistance and a certain amount of back to farm movement due to the depression in Industry.

Number of Farms and Farm Acreage:

In the first period (1900-1910) both the United States and Maryland gained in number of farms, Maryland's gain being considerably less in comparison, however, than the National. In farm acreage the Nation gained while Maryland declined. In both, the higher increase in number of farms than in farm acreage indicates a reduction in average size of farms. This was more pronounced in Maryland than in the Nation. The Nation's increase in value of farm lands and buildings was much greater than that of Maryland in this period.

In the second period (1910-1920) it is evident that agriculture in Maryland did not experience as much stimulus from the World War as the Nation as a whole. This is evident from Maryland's decline in number of farms and farm acreage as compared to the Nation's small increase in number of farms and substantial increase in farm acreage. In value of farm lands and buildings, Maryland experienced a much lower increase than the Nation. This may have been beneficial in that it was indicative of less war time inflation in Maryland.

Failure of Maryland's farms and farm acreage to increase in this period was probably due largely to the fact that Maryland's farms were not as largely devoted to the production of farm products, most stimulated by the war such as grains, beef cattle, hogs and cotton, as large western and southern farms.

In the first half of the 1920-1930 period there was a slight decline in the number of farms in the United States and a decline in acreage. Maryland's

number of farms increased slightly but the acreage declined considerably, indicating a further reduction in average size of farms. In the second half of this period, the number of farms in the United States declined slightly while there was a considerable increase in the farm acreage, denoting the beginning of a return to larger size farms. This was an outcome of more intensive use of mechanized farm equipment on large western grain farms. In Maryland there was both a decline in number of farms and farm acreage.

As we examine the change in value of farm lands and buildings in this period we find a greater stability of value in Maryland than in the Nation. As previously mentioned farm land and buildings value in Maryland did not experience such over inflation in the preceding war period as did that of the Nation, and in the 1920-1930 period, we find a very small decline in the first half and an increase in the second half which brought values back to only slightly below the 1910-1920 period values, while in the Nation values declined considerably.

The 1930-1935 period was characterized by a substantial increase in the Nation's number of farms and a greater increase in farm acreage which indicates a further increase in large size farms. In Maryland there was only a small increase in number of farms and practically no increase in acreage.

The Nation's increase in number and acreage of farms in this period may be traced to two influences, namely; decline in industrial employment and some back-to-farm movement and Federal aids to agriculture. That these influences did not affect Maryland as much as the Nation, is no doubt, due to the fact that the manufacturing industry employment in Maryland was more stable than that of the Nation and that Federal aids to agriculture were not as extensive in Maryland's farming as in some of the Western grain producing and Southern cotton producing areas.

Farm Tenure:

At the beginning of the 1900-1935 period, 64.7% of the Nation's farms were owner or manager operated as compared to 66.4% in Maryland. Of the Nation's total farm acreage, 76.7% was owner or manager operated as compared to 58.1% in Maryland. At this time the much lower percentage of Maryland's farm acreage, owner or manager operated, reflected the tenant operation of farms, which were part of former plantations, by colored tenants. While this occurred to some extent throughout the south it was not sufficient to lower the Nation's percentage of owner or manager operated farms to Maryland's level.

Except for a very small increase in the 1930-1935 period the number of owner or manager operated farms in the Nation declined continuously from 1900 to 1935 and the acreage declined throughout the period. In Maryland we find the reverse of these trends, both number of farms and total farm acreage of owner or manager operated farms increasing throughout the period except for a very small decline in number of farms in the 1930-1935 period.

This increase in owner or manager operated farms in Maryland as compared to the decrease Nationally may be explained by several influences:

1. The exodus of colored farmers from the agricultural sections and the sale of farms they formerly operated as tenants to white owners.
2. The purchase of farms and combining of small farms into larger units by people of wealth.

In 1935 the number of owner or manager operated farms in Maryland was 72.8% of the total as compared to 57.9% in the Nation. In respect to percentage of total farm acreage owner or manager operated, however, there was very little difference between national and Maryland acreage and Maryland was slightly lower than the National.

These high differences in percentage of total farms owner or manager operated and small differences in percentages of total acreage owner or manager operated are due to a greater number of very large owner or manager operated

farms in Western states than in Maryland where farms of 1,000 acres or more are few.

With respect to value of farm lands and buildings a larger increase in value is indicated for owner or manager operated farms in Maryland than in the Nation. This reflects the transition from tenants to owners and more extensive improvements on farms than were made when more were tenant operated.

While Maryland has shown a continuous increase in owner or manager operated farms and decline in tenant operated farms, there is still a large percentage of the State's total farm acreage being tenant operated in several of the State's agricultural sections and it will be beneficial to the State's agricultural economy if the past increase in owner or manager operated farm acreage continues.

County and Sectional Variation In Farm Tenure:

From the data presented in Exhibit 13b, it is evident that the percentage of all farms operated by tenants varied widely in the counties and Economic Sections of Maryland in 1900. Section H-5 having only 17.0% as compared to 33.6% in the State and 48.4% in Section Io8.

Comparing 1900 with 1930 it is evident that the percentage of tenant operated farms declined in every section, the greatest declines occurring in those sections which had a high percentage of tenant operated farms in 1900.

Small increases in the percentage of tenant operated farms in the 1930-1935 period are very probably due to persons returning to farms during the depression who were unable to purchase farms or were seeking temporary occupation during the depression.

In several sections, Io8 and Io11, the percentage of tenant operated farms is not conducive to sound economic conditions. After showing promising declines from 1900 to 1930 in Section Io8, and from 1900 to 1925 in Section Io11 both of these Sections increased considerably in percent of tenant operated farms in the 1930-1935 period. There is an indicated need for a special, more complete study of these sections to determine the causes of high tenant operation of farms.

ECONOMIC STUDIES OF MARYLAND

PART VI

Chapter 3

# TRENDS IN FARM IMPLEMENTS AND MACHINERY, NUMBER OF HORSES AND MULES ON FARMS AND EXPENDITURES FOR FARM LABOR

UNITED STATES AND MARYLAND
1900 to 1930 - 1900 = 100

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Probably no single factor has had greater influence on the nation's Agricultural Economy than the progressive development of improved farm implements and machinery and the extent to which they have been adopted by farm operators. This development has passed through several distinct stages, the first being largely in the nature of replacing manual implements with machines drawn by horses or mules, the second being in the improvement of horse or mule drawn machinery of increased capacity and efficiency and finally in the development of motorized or motor drawn equipment.

In the last stage there were two distinct developments. The earlier development of motorized or motor drawn equipment was of such character that this equipment, due to size, capacity and cost, could only be justified on large farms. It is only in the past two decades that motorized or motor drawn equipment, of such size, capacity and cost as to adapt it to use on small farms, has been developed and come into extensive use.

Exhibit 14, page 25, Part V, was prepared for the purpose of observing and comparing changes in the value of farm implements and machinery in the United States and Maryland and the effect of these changes on some items of farm operation, such as number of horses and mules on farms, cash expenditures for farm labor other than housework, number of farms and number gainfully oc-

cupied in agriculture, since the size of farms and distribution by size classifications have an influence on the adoption of improved farm equipment. Data relating to these items were also included in Exhibit 14.

Among the factors influencing the extent to which improved farm equipment was adopted by farmers in the 1900-1930 period, the most important are:

1. The availability of improved equipment.
2. Ability of farmers to purchase equipment.
3. The supply of farm labor and farm labor wages.
4. Size of farm.

Availability of Improved Equipment:

Obviously, there would have been little increase in improved equipment on farms, had not agricultural machinery manufacturers developed and made available new and improved types of farm equipment, adapted to various types of farming and sizes of farms. This entailed not only the development of equipment for various farm purposes, but increased efficiency of such equipment, and also factory production methods directed to reduction in the cost of equipment to where it could be justified by increased capacity and decreased costs in the production of farm crops. Great advances were made in such developments during the 1900-1930 period and the United States led the world in this.

Ability Of Farmers To Purchase Equipment:

The controlling factors in the farmers ability to purchase new farm equipment are farm income and cost of the equipment. The 1900 to 1930 period was one of rapid expansion of industry in the United States in which Maryland shared, as we have shown in Parts III and IV of our studies. This was accompanied by an expansion in demand and better prices for farm products with resultant increased farm income and purchasing power.

Industrial expansion and production was highly stimulated in the second decade of the period by the World War which also stimulated demand for agricultural products both at home and abroad. The great increase in demand for farm products was not met by an expansion in the number of farms or increased number of farm workers, both of which changed very little (see the fourth and fifth tables of Exhibit 14) but by a greatly increased use of farm machinery with a resultant increase in farm capacity to produce. In this decade the value of farm implements and machinery increased 180% in the United States and 149% in Maryland.

The very large increase in the 1910-1920 decade and declining farm income in the latter part of the 1920-30 decade apparently checked the rapid rise in value of farm implements and machinery.

Supply Of Farm Labor And Farm Labor Wages:

The incentive to replace farm labor by the installation of labor saving farm equipment is directly dependent on the supply of farm labor and farm labor wages. With respect to influences on this we must again turn to industrial expansion during the 1900-1930 period and in this case the effects of industrial expansion have a detrimental reaction on agriculture due to the migration of labor from agricultural sections to industrial sections where it was attracted by greater employment opportunities and higher wages. This migration resulted in a shortage of labor and increase in farm labor wage rates. This is evidenced in the fourth table of Exhibit 14 which shows a rapid increase in cash expenditures for farm labor which is not accounted for by a comparable increase in the number gainfully occupied in agriculture (see fifth table) and is contrary to what might have been expected if the great increase in equipment value shown in the first table, was for labor saving equipment. It must be concluded that improved implements and machinery made it possible

for the farmer to materially increase man-hour production and therefore justify higher wages.

In many cases, undoubtedly the installation of labor saving farm equipment was not a matter of choice or of economic justification but was a necessity if the farm was to continue in operation with such labor as was obtainable. The economic justification of motorized farm equipment on farms of less than 200 acres is still a much debated question.

During the depression following 1930 there was a considerable back to the farm migration. It is very probable that this would have been much greater had not intensive mechanization of farming, made in previous decades, reduced opportunities for employment on farms. Much of the back to farm movement was due to relatives of farmers returning to the farm while weathering the depression and to others going to purchased or rented farms.

The higher value per farm of farm equipment in Maryland throughout the 1900-1930 period as compared with the United States as a whole indicates that Maryland farms on the average were better equipped. The increase in value was greatest however in the United States.

Effect Of Farm Mechanization On Horses and Mules On Farms:

In earlier paragraphs of this chapter we mentioned that one of the stages of development in improved farm equipment was in larger size and larger capacity horse or mule drawn equipment. This may be one of the reasons why the number of horses and mules on farms did not decline in the period from 1900-1920. Two other possible explanations of this may be found in a continuation of horse and mule raising for sale off the farm and the fact that it was only in the past two decades that motorized equipment of such size, price and general utility, in land preparation, planting, cultivating and harvesting, as to adapt it to medium and small size farms, has been developed and installed.

The substantial decline in horses and mules on farms in the 1920-1930 decade no doubt was largely a result of the adaptation of motorized equipment to smaller size farms and a decline in markets for horses and mules.

Effect Of Farm Mechanization On Expenditures For Labor:

Expenditures for farm labor per farm were twice as large in Maryland in 1900 as in the United States as a whole but did not increase at as rapid a rate as in the United States in subsequent years. Since higher costs for farm labor are not explained by any observed appreciable increase in agricultural occupation it must be assumed that the increase is due to higher wages and that the higher wages were justified by higher man-hour production with improved farm machinery.

Size Of Farms:

The last table of Exhibit 14, refers to the proportion of total farms included in the various size classifications. There was only minor differences between the United States and Maryland percentages in the first two classifications. In the last two classifications, which cover farms larger than 500 acres, the United States percentages are much larger than Maryland's.

The economic justification of mechanized farm equipment is not only dependent on the farm size but also on the extent to which the farm is devoted to crops on which the equipment can be used most efficiently.

Maximum use and probably the most efficient use of mechanized farm equipment has been on very large Western grain farms and this combined with low priced land, unsuited to large scale production of other crops, has resulted in repeated overproduction of grains on these farms and depressed prices which have had an adverse effect on income obtainable from these crops on smaller general farms.

Approximately 62% of the crop land harvested in Maryland in 1929 was in grains (principally corn and wheat) and in Kent County the percentage was 73%.

ECONOMIC STUDIES OF MARYLAND

PART VI

Chapter 4

# CHANGES IN TYPES OF FARMING

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In the 1930 Census, the Census Bureau, for the first time, made the following classifications in types of farming:

General, Cash Grain, Cotton, Crop Specialty, Stock-ranch, Poultry, Self-sufficing, Abnormal and Unclassified. Source of income; that is, the value of products from a particular source in relation to the value of products from all sources, was the primary basis used in classifying the farms by type.

Of the above mentioned thirteen types, seven appear as of predominant importance in some county or agricultural section of Maryland, namely: General, Dairy, Cash Grain, Crop Specialty, Fruit, Truck and Poultry.

These types and the product values reported for them were used in constructing the Base Pattern of Maryland's agriculture presented in Part II. Their distribution in counties and economic sections of the State, in which they appear as of importance, is shown in Exhibits 3 to 9 on pages 6 to 12 of this issue.

Statistical data are not available by these type classifications for years preceding 1930, and it was necessary, therefore, to observe changes through studies of statistics relating to livestock, livestock products, crops and other farm data on which the Census Bureau reported.

The appearance of seven of the important types of farming in Maryland and the high percentage of total product value reported for General farming (28.0%), indicated a very good diversity of farming in the State.

Trends In Specified Live Stock On Farms:

In Exhibit 15 of Part V, we presented trend indexes relating to live stock and live stock products. These indicate changes which would reflect on General, Dairy and Poultry types of farming. In Table 1 the indexes refer to live stock: cows, heifers, swine, sheep and chicken on farms. As we examine those indexes it seems evident that cattle on Maryland farms after declining in the two decades following 1900, began an increase which has been sustained in subsequent decades. The increase following 1920 was mostly due to increase in dairy cattle. In recent years there has been a considerable increase also in the production of beef cattle on some of the large farms.

The indexes for swine on farms, also presented in Table 1 of Exhibit 15, indicate considerable instability in swine raising in the State during the 1900-'35 period. There was an especially rapid decline in swine on farms following 1920. Among the causes which influenced this decline, probably the most important were low prices due to declining demand and overproduction following the World War, competion from large corn growing farms in the West, government control measures and switches to other products.

The indexes for sheep on Maryland farms, also presented in Table 1 of Exhibit 15, indicate great instability in sheep growing in Maryland. Following a substantial increase in the 1900-'10 decade there was a rapid decline in the next two decades. In the 1920-'30 decade there appears to have been a revival of sheep raising but the decline in the 1930-'35 period does not indicate a sustained interest in sheep raising. The indexes for wool production and value, Table 4, tend to confirm the declining importance of sheep raising in the State. The greater decline in wool production than in sheep on farms indicates greater importance of sheep growing for lamb production than for wool.

Due to the census being taken some years in January, before the spring lambing season, and some years in April, after this season, the number of lambs were excluded in preparing our indexes for sheep on farms.

Among the influences affecting sheep growing in Maryland, probably the most important are competition from large ranges in the West and increased use of pasture lands for dairy or beef cattle in the State.

Poultry:

In Table 2 of Exhibit 15, Part V, we presented indexes of trends in poultry and poultry products only for chickens. Data for other poultry are very incomplete in Census reports.

Poultry farming assumed predominant importance in only one county in Maryland in 1930, namely, in Caroline County. Poultry and poultry products are important sources of cash income however on practically all farms. The statistics indicate a large increase in the importance of poultry raising in the State. As in the case of sheep, the census being taken some years in January before spring hatching and some years in April when this is well advanced, the figures for different census years are not strictly comparable. The census figures do not provide a measure of the increase in the production of broiler size chickens, which from other sources, is known to have increased considerably.

Poultry and poultry products, being mostly direct-to-consumer products, are influenced to a great extent by general economic conditions. The substantial increase in Maryland in the 1900-'35 period reflects increased local demand due to population growth in the State's industrial sections.

In Table 3 of Exhibit 15 of Part V, we presented statistical indexes relating to dairy farming. These indicate considerable increase, during the 1900-'35 period, in the importance of dairy farming in Maryland and also important changes in the marketing of dairy products. Indexes for the number of

dairy cows and heifers on farms in 1920, 1925 and 1935 show substantial increases in each period following 1920. The statistics for number of cows milked in 1924, 1929 and 1934 do not indicate a large increase and do not appear to account for a much greater increase in milk produced.

The large increase in milk production following 1919 as compared to a small increase in number of cows milked, indicates changes in dairy herds, which from other sources of information are known to have occurred. These were in the nature of changes from high butterfat producing types of dairy cattle to high milk producers and to improved stock and feeding practices.

The first was a result of very definite changes in the demand for dairy products which are indicated by the statistical indexes relating to total milk produced, milk marketed as whole milk, butter churned on farms and cream sold. These indexes show a very large increase, following 1909, in sales of whole milk and a very drastic decline in butter churned on farms and sold.

Several influences contributed to this change, the most important of which were the increased demand for whole milk and the establishment of creameries for the production of butter. Both of these changes were responsive to changes in the State's industrial economy.

Cream sold as butter fat, increased greatly in the period from 1909 to 1924 during which the practice of churning butter on farms was replaced by cream separation and sale of cream to creameries for manufacture of butter and other cream products. The decline in the 1924-'29 period indicates a very definite switch from cream separation and sale to greater marketing as whole milk. Facilities for moving whole milk from farms to market, including improved roads and increased demand for whole milk in the State's industrial sections have been the chief influences on the increased marketing of dairy products as whole milk.

Fruit Growing:

In Exhibit 13 of Part V, we presented indexes of trends relating to Fruit farming in Maryland. While fruit production and value of fruit production statistics, indicate income from fruit growing, they are subject to variations resulting from crop failure due to weather conditions and wide variations in prices. They do not, therefore, provide such reliable indicators of change in fruit growing as statistics on trees, vines and acreage devoted to small fruits.

In our Base Pattern of Maryland's agriculture, fruit growing assumed predominant importance in 1930, only in Washington and Allegany counties. It is found to a certain extent, however, on most farms in other counties.

With respect to tree fruits, the Census reports on total trees of all ages, on trees of non-bearing age and on trees of bearing age. The trend indexes of Tables 1, 2 and 3 of Exhibit 16 were prepared from these data. Non-bearing trees were assumed to be young trees which had not yet come into bearing. While other tree fruits are grown in the State besides apples, peaches, pears and cherries, these four are the most predominant.

Examination of Table 1 indicate a continuous and drastic decline in fruit trees of all ages, there being in 1935 only 41.8% of the number of trees reported in 1910. Even more significant of the future of fruit growing in the State was the great decline in trees of non-bearing age, which in 1935 were only 16% of the number in 1910. This, when related to the large decline in trees of all ages and trees of bearing age, very definitely points to very little planting of new orchards or replacements in old orchards and a continued decline in the production of fruits in the State.

The growing of apples appears to have held up much better than the other three fruits. However, the drastic decline in number of apple trees of non-bearing age, reported in 1930 and 1935, indicates that apple growing will

show marked decline in the future, unless there is an increase in the planting of new orchards.

Peaches and pears show the greatest declines. These fruits were formerly grown in large quantities on the Eastern Shore. Diseases of these trees and increase in insect pests, which resulted in high loss of trees or high spraying costs, the development of fruit growing in other states, improved facilities for fruit transportation for long distances and demand for better graded fruits have all contributed to the decline in tree fruit growing in Maryland. The decline has not been fully registered by production and value statistics which may be expected to show greater declines in future years.

Examination of the trend indexes of Table 4 of Exhibit 16, relating to grape growing indicates a large increase in grape growing from 1910 to 1930, but a substantial decline in the total vines, non-bearing and bearing vines in the 1930-'35 period. The increase in grape growing was largely due to increased demand for grapes for home making of grape wine and grape juice during the prohibition era. The decline following prohibition repeal tends to confirm this.

Small Fruits:

The trend indexes of Tables 7 and 8 of Exhibit 16 relate to the production of small fruits, the most important of which are strawberries, blackberries, dewberries and raspberries. The Census Bureau reports only on acreage and production of small fruits.

The statistics indicate a general decline and instability of these fruit crops in Maryland with wide variations in both acreage and quarts produced. In both acreage and production, strawberries are most predominant.

The instability of small fruit growing in the State can not be accounted for by lack of demand and must, therefore, be due to other influences. The production and harvesting of these fruits requires considerable manual labor,

particularly in harvesting. A scarcity of cheap labor for berry picking in Maryland, due to migration of farm labor to industrial sections; a greater supply of this labor in other states to the south and increased production of these fruits in southern states; better transportation facilities from southern states into markets formerly supplied from Maryland and the earlier ripening of fruits in the south have all contributed to a decline in small fruit growing in Maryland.

Truck Crops:

In Exhibit 17 of Part V, we presented trend indexes relating to specified truck crops in Maryland. They indicate a continuous and very large increase in the acreage devoted to the principal truck crops of the State. In the entire period from 1899 to 1934 this increase was 58.6%. It is significant that large increases were in truck crops which move direct to consumers as green vegetables, such as asparagus, string beans, cucumbers, cantaloupes and spinach.

Unfortunately, the Farm Census data for 1899, 1924 and 1934 do not cover value of truck crops and the data for 1909, giving both acreage and value, cover only farms reporting one or more acres devoted to raising truck crops for sale or home use and are, therefore, not strictly comparable with data for other years in which this limitation was not applied. Since the 1909 data do indicate a change in spite of the limitation they have been included in the tables.

Truck farming appears in our Base Pattern of Maryland's agriculture in 1930, as a predominant type of farming in only one agricultural section: Section Io9, (Dorchester and Wicomico counties) and in another agricultural county (Somerset). It also appears as a predominant type of farming in three rural industrial counties, Anne Arundel, Prince Georges and Baltimore counties. (See Exhibit 6, Distribution Of Truck Farming In Maryland). There is a considerable

amount of truck farming on most farms both for sale and home consumption of vegetables but the value as compared to other crops does not assume predominant importance except in the counties enumerated above. It is significant that truck farming assumes predominant importance only in counties where industrial development and its resultant population increase has created greater local markets for vegetables.

Grains And Other Field Crops:

In Table 1, of Exhibit 18, Part V, we presented trend indexes ralating to acreage of grain crops, and to production and value of grain crops (corn, wheat, oats and barley) in the State. In tables 2 and 3 data relative to acreage production and value of tobacco and potatoes were presented. In Exhibit 18a, trend indexes relating to acreage devoted to grain crops (total, wheat, corn, oats, barley and rye) were presented for each of Maryland's economic sections, except Baltimore City which has a small amount of farm land included in its area.

From the standpoint of land use, grain acreage is predominant in Maryland. This is shown by the high percentage of all crop land harvested which was devoted to grain crops in 1924, 1929, and 1934, in the following table:

Ratio of Grain Land Harvested to Total Crop Land Harvested

| | State | Sec. Io1 | Sec. Io2 | Sec. Io8 | Sec. Io9 | Sec. Io11 | Sec. H-5 | Sec. I-2 | Sec. I-3 |
|---|---|---|---|---|---|---|---|---|---|
| 1924 | 59.9 | 65.1 | 53.0 | 70.0 | 58.4 | 58.5 | 33.9 | 44.0 | 45.0 |
| 1929 | 62.5 | 66.5 | 55.6 | 72.9 | 59.2 | 62.5 | 37.2 | 44.6 | 44.7 |
| 1934 | 58.9 | 63.3 | 56.3 | 69.2 | 56.4 | 51.9 | 40.7 | 43.7 | 39.3 |

Wheat and corn acreage represented most of the grain acreage harvested in 1924, 1929 and 1934 as shown in the following table:

Ratio of Wheat and Corn Land Harvested to Total Grain Land Harvested

| | Sec. Io1 | Sec. Io2 | Sec. Io8 | Sec. Io9 | Sec. Io11 | Sec. H-5 | Sec. I-2 | Sec. I-3 |
|---|---|---|---|---|---|---|---|---|
| 1924 | 93.2 | 90.8 | 98.4 | 97.0 | 97.9 | 56.2 | 88.1 | 97.4 |
| 1929 | 92.7 | 89.6 | 98.7 | 97.2 | 97.0 | 53.5 | 83.0 | 98.4 |
| 1934 | 88.6 | 86.1 | 96.6 | 93.5 | 95.5 | 55.4 | 79.7 | 97.4 |

In Allegany County, which has the lowest wheat acreage and lowest combined wheat and corn acreage, the acreage devoted to oats represented 41.4%, 43.3% and 39.8% of the grain acreage in 1924, 1929 and 1934.

Referring to Table 1 of Exhibit 18, it is evident that total acreage devoted to production of corn, wheat, oats and barley consistently and greatly declined in the period from 1919 to 1934 and was accompanied by a corresponding decline in production. Due to higher prices obtained during and after the World War the value of those grain crops held considerably above the 1909 level until 1934 when values dropped lower due to the depression. Only one grain, barley shows a very substantial increase in acreage, production and value since 1919. It represents however, only a small percentage of the total grain acreage and production.

Tobacco:

From Table 2 of Exhibit 18 it is evident that there was a substantial increase in tobacco acreage, production and value during the 1909-1934 period. A stimulation of tobacco production occurred during the World War and in the period following this the great increase in cigarette manufacture, for which the Maryland tobaccos are in demand, maintained a good situation in tobacco growing.

Potatoes:

The trend indexes of Table 3, Exhibit 18 relate to acreage, production and value of potato crops in the State. Following a highly stimulated production during the World War accompanied by high prices for these products there was a considerable decline. While the acreage in 1934 was about 14% lower than in 1909 the production was only 3.5% less and the crop value was 14.2% above 1909. The statistics indicate considerable stability in potato growing in the State.

Grain Farming In Economic Sections:

From an examination of Exhibit 18a, Part V, it is evident that all of the economic sections experienced large declines in acreage devoted to grain

crops during the 1909-1934 period. A study of statistics relating to hay and forage crops and plowable pasture land disclosed that the greater part of the land withdrawn from grain production was diverted to these uses.

This expansion of land use in hay and forage crops and plowable pasture land together with the fact that the acreage devoted to corn declined considerably less than that devoted to wheat (corn 25.8% as compared to wheat 30.8%) is no doubt due to expansion of dairy farming. Corn is used to a much greater extent than wheat in stock feeding.

Dairy farming was a predominant type of farming in Agricultural Sections Io1 and Io2 and in two of the Industrial Sections (H-5 and I-2) of the 1930 Base Pattern.

The 1909-1934 declines in total grain acreage in these sections were as follows:

Section Io1 (31.2%), Section Io2 (32.1%), Section H-5 (30.3%), Section I-2 (36.7%).

The decline in wheat acreage in the same sections was, 30.3%, 39.7%, 15.7%, and 47.1% respectively while the corresponding corn acreage declines were, 18.5%, 25.5%, 15.3% and 28.2% respectively.

While dairy farming did not appear as a predominant type of farming in Section Io8, the second largest grain growing section in the State, a study of statistics on dairy farming in this section indicates considerable increase.

The tenant lease contracts of Maryland have probably had considerable influence on the extent to which land formerly used in grain crops has been diverted to other crops. Under these contracts the farm landlord shares only in field crops, while the tenant shares in these crops, and also owns the livestock and receives all the income from this. For this reason it is evident that there is greater incentive on owner operated farms to go into dairying and livestock farming and divert land from grain growing to the production of forage crops and pasture, than on tenant operated farms.

Referring to Exhibit 13a of Part V, relating to farm tenure in counties and Economic Sections of the State, it will be noted that the percentage of farms tenant operated in Sections Io1 and Io2, H-5 and I-2, in which dairy farming was a predominant type of farming in the Base Pattern of 1930, was much lower than in Section Io8. It seems evident that farm tenure therefore has had considerable influence on the diversion of grain acreage to forage crops, pasture and other more profitable uses and is a very definite problem in Section Io8 where tenant operation of farms is the highest in the State with 57.2% of its total acreage tenant operated in 1910 as compared to the State's 38.5%. In 1935 there was still 52.9% of its acreage tenant operated as compared to 33.4% in the State, indicating little improvement.

Due to Federal Soil Conservation measures directed to reduction in soil depleting land uses and increased use in legumes and other forage crops, a further decline in grain acreage may be expected in the period since 1934.

With such a large proportion of the State's crop land still devoted to grain crops, there appears to be a need for a complete economic study of grain growing in the State to determine the competitive position of Maryland with states where grain growing has been highly commercialized on large highly mechanized farms. The need for such a study is particularly great in Section Io8.

ECONOMIC STUDIES OF MARYLAND

PART VI

Chapter 5

MORTGAGE DEBT

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In Exhibits 19 and 19a, we presented statistical data indicative of changes, during the period of 1910 to 1930, in full owner operated farm mortgage debt. These statistics provide a comparison of mortgage debt in the United States as a whole and in Maryland. They also provide data for comparing State changes with those in the Counties and economic sections of the State.

Mortgage debt is responsible for a considerable part of farm operating expense. Interest payments must be met regardless of farm income if foreclosure of farm mortgages and loss of equity are to be avoided. Unlike taxes, mortgage debt is within the control of the farmer and avoidance of excessive mortgage debt is a matter of sound farm economics and management where debt cost must be met from farm income.

The statistics of Exhibits 19 and 19a cover the decade of the World War which was a period of high demand and prices for farm products, and the subsequent decade, which was marked by a high degree of industrial activity and prosperity. The 1910-'20 decade was marked by an extreme inflation in farm values and a corresponding increase in mortgage debt. The average value per farm increasing 83.6% in the Nation and 74.7% in Maryland while mortgage debt increased 95.7% in the Nation and 81.3% in Maryland. Farmers apparently did not take advantage of the greater income of the period to reduce mortgage indebtedness but expanded their holdings and operations on borrowed funds

based on inflated paper values of farms which were later to collapse. The extreme to which such borrowing was carried is indicated by the increase of 6.6% and 3.7% in ratio of mortgage debt to value in the United States and Maryland respectively for the decade.

In the 1920-'30 decade, farm prosperity was not on a parity with industrial prosperity. Average farm value declined 22.2% in the Nation while mortgage debt increased 6.1% and these combined changes resulted in a very great increase in the ratio of debt to value (36.1%), with a resultant decrease in farmers' equity. Contrasted with this, average farm values in Maryland increased 10.1% and mortgage debt increased 18.2% and these changes combined resulted in a much lower increase in Maryland's ratio of debt to value (8.3%). The decline in farmers' equity in Maryland was, therefore, less severe than the average in the Nation.

Further drastic declines in the value of farm real estate occurred in the 1930-'35 period (see Exhibit 20). When mortgage data are available from the 1940 Census there will no doubt be further large increases in the National and Maryland ratios of mortgage debt to value.

These farm mortgage conditions were economically unsound and combined with greatly decreased farm income in the depression period caused wholesale foreclosures.

In Maryland, the increase in average value per farm during the 1910-'20 decade varied greatly between the State's economic sections. The increase in Sections Io1, Io2, Io9 and Io11 was considerably more than for the State and exceptionally high in Sections Io9 and Io11. These high increases were partly due to purchase of farm estates and improvements of these by wealthy people.

Peculiarly the Rural Industrial Sections I-2, I-3 and H-5 experienced considerably lower increases in average value per farm than the State's average. This in Sections I-2 and I-3 was probably due to the higher value existing at the beginning of the decade, resulting from industrial developments in Baltimore City and Baltimore County.

In the 1920-'30 decade only one of the Rural Agricultural Sections, Io2, showed any substantial increase in average value per farm. Sections Iol and Ioll made small gains, Section Io8 lost considerably and Section Io9 remained practically the same as in the previous decade. In this decade the greatest increases in average value per farm were in two of the Rural Industrial Sections I-2 and I-3 where the increases were no doubt a reflection of industrial prosperity in the Baltimore area and a large increase in rural residence.

Mortgage debt in the economic sections of the State followed farm real estate values generally. In Sections Io8, Io9 and Ioll the percent increase in mortgage debt was much greater than the increase in value, indicating a particularly unsound financial condition in farm ownership in these sections.

In all sections except Io8 mortgage debt per farm increased considerably in the 1920-'30 decade.

The changes in average value per farm and mortgage debt in the different sections are reflected in the ratios of mortgage debt to value for the two decades, the overall increases being Sec. Iol (4.9%); Sec. Io2 (10.8%); Sec. Io8 (8.2%); Sec. Io9 (9.7%); Sec. Ioll (7.9%); Sec. I-2 (1.0%); Sec. I-3 (2.8%) and Sec. H-5 (0.7%) as compared with 4.0% for the State and 12.3% for the Nation.

While the average mortgage per farm in the United States as a whole, during the 1910-'30 period, was about 20% higher than that in Maryland the average mortgage per acre in Maryland was about 24% higher than that in the United States as a whole. The average Maryland farmer was therefore, operating under a 24% greater mortgage debt burden per acre, the interest cost of which must be met by higher income per acre. It will be shown later that the average Maryland farmer had a higher cash farm income per acre from which to meet this cost.

ECONOMIC STUDIES OF MARYLAND

PART VI

Chapter 6

# FARM REAL ESTATE TAXES AND RELATIONSHIP BETWEEN TAXES, REAL ESTATE VALUES AND CASH FARM INCOME (1)

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In Exhibits 20 and 20a of Part V, we presented, for the United States as a whole and for Maryland, tabulated and graphed statistical data relating to average farm real estate tax per acre for the 1913-'38 period; average value per acre of farm real estate for the 1910'35 period; and average cash farm income per acre for the 1924-'38 period.

Taxes are an inescapable item of expense in farm operations and in the past several decades have absorbed a greatly increased proportion of the farmer's income. The burden of taxes naturally became more acute following 1929, when cash farm income declined rapidly without a proportionate decline in taxes and the farmer's tax burden therefore became a matter of considerable concern to Federal, State and County governments.

The average farm real estate tax per acre increased greatly, both in the Nation and in Maryland, during the 1910-'20 and 1920-'30 decades. The national maximum was reached in 1929 when it was 241% of the 1913 tax. In Maryland the maximum was reached in 1930, when it was 245% of the 1913 tax. Throughout the 1913-'38 period, Maryland's tax was considerably higher than the national. In 1913 it was 58% greater and in 1938 was 87% above the

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(1) Statistics for cash farm income are from reports released by the U. S. Bureau of Agricultural Economics. Their estimates have been revised from time to time and changed. The figures used in Exhibit 20 are derived from the latest available estimates.

average national tax. During the 1930-'35 period there was a decline in both the national and Maryland tax, the national tax in 1935 was 35% lower than the 1929 maximum while Maryland's tax in 1934 was 34.4% less than the 1930 maximum. In the next two years the tax again increased both nationally and in Maryland and the increase in Maryland was greater than the national increase.

While these data show that the average farm real estate tax per acre in Maryland represents a greater charge against farm operations than the average for the Nation, it would be a misinterpretation of the data to assume that the higher Maryland tax indicated any unsound economic condition in finances, governmental administrations or tax policies of Maryland counties. Nor does it indicate, of itself, any unfavorable reaction on the competitive position of Maryland's farm products. This question resolves itself into how the tax revenues are being spent and it is quite conceivable that revenue from the higher tax on Maryland farm real estate may be so expended as to improve the competitive position of Maryland's farm products in the competitive markets to which they move.

The period from 1910 to 1929 was marked by intensive industrial development and prosperity; employment and wages were at high levels and there was a marked rise in living standards which had its reaction on agricultural communities.

Except where revenues are available from other sources, farm real estate taxes indicate, to a great extent, the living standards in a farm community. It is only necessary to look back a few decades in Maryland to find farm real estate taxes very much lower than they are at present, but we would also find most of the farm communities with practically no modern homes, schools much below present day standards, no improved highways and

lacking many of the other facilities, provided through county and state agencies, which contribute to better living conditions.

The data relating to average value per acre of farm real estate in the Nation as a whole and in Maryland, during the 1910-'35 period, show values in Maryland ranging from 20 to 80 percent higher than values in the Nation. This partly explains the higher real estate taxes in Maryland. It also indicates, however, that the average Maryland farm is better improved with home and farm buildings.

Among other causes contributing to high farm real estate taxes and increase in taxes in Maryland during the 1913-'38 period, a rapid and large increase in funded debt, substantial increases in assessments and some increases in rates were found to be the principal causes.

A quite comprehensive study of farm taxes in Maryland was made by W. P. Walker and S. H. DeVault and published in 1932 by the University of Marylan under the title, "Taxation In Maryland With Reference To Agriculture", (Bulletin No. 339). This work provides considerable information relating to farm real estate taxes, funded debt and the principal public improvements for which funds raised by bond issues were used in the counties of Maryland.

In an analysis of data presented in this Bulletin No. 339 we found that bonded indebtedness of Maryland's counties increased rapidly from 1912 to 1932. In 1912 the bonded debt was $1,922,000; in 1922 it was $7,201,000 and in 1932 it was $31,437,000. These very large increases in fundod debt entailed correspondingly large increases in county tax revenues for meeting amortization and interest payments on bonds with resultant increases in assessments and tax rates. This was the principal cause of high and increasing taxes in the period.

The authors state that about 87% of the county bonds outstanding

were for school and road purposes, divided in the proportions of about 50% and 37% respectively. The road bonds, included in these figures, excluded those to be repaid from the gasoline tax.

This provides us with definite information as to the use of funds derived from the sale of bond issues and the increased tax revenues and shows that they were almost entirely applied to improvements in schools and roads and as we have previously pointed out these improvements contribute greatly to better standards of living. Improved roads also react on the farm economy in providing better facilities for communication and movement of farm products to market areas.

With respect to increases in assessed valuation during the 1910-'27 period an increase of 44% on all farm property, an increase on land of 34% and on buildings of 84% are cited in Bulletin No. 339.

With respect to increase in the tax rate per $100 of assessed valuation, Bulletin No. 339 provides data relating to eleven Maryland counties selected for study. In 1910 the average county rate for these counties was $0.997, the State rate was $0.16 and the total county and State was $1.157. In the highest year (1922), the average county rate was $1.55, the State rate was $0.35 and the total county and State was $1.90. In the 1934-'35 tax year the lowest rate since 1910 was reached when the average county rate in the eleven counties was $0.991, the State rate was $0.22 and the total county and State was $1.211. Increases following the 1934-'35 tax year brought the average county rate to $1.273, the State rate to $0.2335 and the total county and State rate to $1.5065 in the 1939-'40 tax year. (1).

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(1) Data for years subsequent to 1932 are from reports of the Joint Tax Committee of The Maryland State Grange and Maryland Farm Bureau Federation.

Changes in assessed valuations and tax rates combined, determine the taxes paid. Separately they only indicate the extent to which adjustments in tax revenues were made by each.

In Chapter 5 we developed that the average farmer in Maryland was operating under a mortgage debt cost considerably higher than the average farmer in the Nation. In preceding paragraphs of this chapter we developed that the average Maryland farmer was also operating under a much higher tax burden than the average farmer in the Nation.

From the data on cash farm income in the nation as a whole and that in Maryland, it is evident that the average farmer in Maryland had a cash farm income ranging from $4.25 to $7.80 per acre higher than that of the average farmer in the Nation during the 1924-'38 period.

The comparison of average national and Maryland taxes, mortgage debt and cash farm income, while indicating certain conditions pertinent to farming in the Nation and Maryland, can not be interpreted to indicate the competitive position of Maryland's farm products in the markets to which they move. This can only be determined by a comparison of these and other conditions in Maryland with those in states from which farm products, predominant in Maryland's agricultural economy, move to the same markets as those of Maryland.

# ECONOMIC STUDIES OF MARYLAND

## PART VI

## Chapter 7

## CASH FARM INCOME

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The statistical data presented in Exhibit 21 of Part V relates to cash farm income, in the United States as a whole and in Maryland, exclusive of Government payments made in the years 1934 to 1939 inclusive. Based on the total United States farm acreage in 1935 of 1,054,515,111 acres and total farm acreage in Maryland in 1935 of 4,383,641 acres, the average Government payments over the 1934-'39 period was 46.8¢ per acre in the United States as a whole and 34.8¢ in Maryland. Due to the higher cash farm income per acre of Maryland farmers Government payments represented an average of only 2.32% of their total cash farm income as compared to 6.18% for the Nation.

In the 1924-'39 period, for which comparable statistics for the United States and Maryland were available, there were wide fluctutations in cash farm income due to changes in general economic conditions during the period which materially affected consumer income and purchasing power.

In the five year period, 1924-'29, which comprised the latter end of the era of industrial prosperity, consumer income and purchasing power were at a high level and cash farm income in the Nation increased about 10%. In Maryland, cash farm income increased more rapidly than in the Nation as a whole in the three year period, 1924-'27, and reached a level in 1927, of 14.6% above that of 1924. This was followed by a drop of 14.5% in the 1928 cash farm income and a recovery of about 15% in 1929.

As we analyze the statistics for the 1929-'37 period they quite evidently indicate a better cash farm income trend in Maryland than in the United States as a whole. In the decline phase of this period 1929-'32,

cash farm income in Maryland declined 50.3% as compared to a decline of 58.3% in the Nation. In the recovery phase, 1932-'37, Maryland's cash farm income increased 87.6%, bringing it to a level 5.1% above 1924, while national cash farm income increased 86.7% bringing it to a level 14% below 1924.

Cash farm income in 1938 declined, from the 1937 level, 13.1% in the Nation and 13.8% in Maryland. Both in the Nation and in Maryland, cash farm income gained slightly in 1939, at which time the cash farm income of the Nation was 76.0% and of Maryland 90.8% of the respective 1924 incomes.

The right side tabulation of Exhibit 21, Part V, relates to cash farm income per acre. The figures were derived from dividing the cash farm income for each year by the average total farm acreage reported by the U. S. Census of Agriculture for the years 1925-'30 and 1935.

It is evident from these data that cash farm income per acre in Maryland, for the 1924-'39 period was much higher than that of the Nation as a whole. The average for the period in the Nation was $8.55 per acre and in Maryland $14.93 per acre, the Maryland average being 74.6% above the national average. The difference was most pronounced in the 1930-'39 period when Maryland's cash farm income per acre ranged from 79.6% above the national in 1930 to 97.2% above in 1932 (the lowest of the depression years).

The statistics of both tabulations of Exhibit 21 were presented graphically below the tabulations, the upper graph using the income indexes with 1924 as the base year, and the lower graph using figures for cash farm income per acre (Dollars).

The statistical data of Exhibit 21 definitely indicate that the average Maryland farmer realized considerably higher cash farm income per acre, in the 1924-'39 period, than the average realized in the Nation as a whole, and that the cash farm income in Maryland during the 1929-'39 period was more stable than that of the Nation.

Among possible explanations of Maryland's favorable cash farm income position compared with the national average we may list the following:

1. Diversification of farm operations.
2. Increase in production of vegetables, poultry and poultry products, milk and other dairy products and other animal products which move largely direct to consumers.
3. Proximity to markets and character of markets.
4. Transportation facilities for movement of farm products to markets.

These bear a definite relation to industrial developments in the State and particularly in the Baltimore Industrial Area which will be discussed in the summary chapter which follows.

ECONOMIC STUDIES OF MARYLAND

PART VI

Chapter 8

# RELATIONSHIP OF AGRICULTURAL TO INDUSTRIAL CHANGE IN MARYLAND. THE REPERCUSSIONS OF INDUSTRIAL CHANGE ON THE AGRICULTURAL STRUCTURE OF THE STATE

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In Part IV of the "Economic Studies of Maryland" considerable emphasis was placed on certain changes in the characteristics of Maryland's industries which exercised important economic influences. The more important of these are recapitulated below:

1. Since the Civil War, Maryland has consistently maintained the position of a highly individual state in the sense that a majority of her gainfully occupied persons have been engaged in industrial pursuits.
2. Since the beginning of the twentieth century, however, Maryland's industry has experienced a transition of extremely important significance to the economy of the State. While both types of industry (Service and Non-Service) have grown, the relative importance of the two types of industry has changed greatly, so that growth of manufacturing has transcended growth in the Service industries.
3. As of the industrial growth of Maryland and the transition of industry from servicing to manufacturing progressed, a secondary transition resulted in the service industries which increased the relative occupational importance of two of the local service industries (transportation and power) and decreased the relative occupational importance of another service industry (wholesale trade). Thus, the industrial growth of Maryland has been largely in manufacturing and

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in two of the sub-classifications of the service industries (local transportation and local power).

4. Another extremely significant factor in the industrial growth of Maryland was, that as industry expanded it was confined essentially to the three Rural Industrial Sections (I-2, I-3 and H-5), comprising five counties of the State and the three Urban Sections (Baltimore, Cumberland and Hagerstown) of our 1930 Base Pattern. The remaining eighteen counties remain predominatly agricultural in character.

5. Definite indications were developed in Part IV that the relative stability of Maryland's industry showed material gain as the industrial growth and transitions of the State's industries progressed.

It is the purpose of this chapter to point out certain of the effects of these changing industrial characteristics on the agriculture of the State and its counties. The more important of these repercussions are enumerated below:

1. The growth in production of certain types of agricultural products, namely; those which move more or less directly from the farm to ultimate consumers, such as fresh vegetables, certain kinds of fruits, milk, poultry, eggs and to some extent certain animal products.

2. The increase in relative importance of these farm products from the standpoint of product value, farm income and agricultural employment.

3. The concentration of types of farming devoted to the production of these products in areas contiguous to the Urban Sections.

The increased production of the products enumerated in (1) was discussed in Chapter 4 of this part of the "Economic Studies of Maryland" and was contrasted with declines in certain other types of products, notably in the cereals. Evidence of high concentration on types of farming devoted to these products is

indicated first, in Exhibit 2 and by Exhibit 3 (Distribution of General Farming), Exhibit 4 (Distribution of Dairy Farming), and Exhibit 6 (Distribution of Truck Farming) of Part V.

One of the most convincing evidences of the high concentration of types of farming devoted to these products in the vicinity of urban centers is that of Baltimore County. As stated earlier in these economic studies, Baltimore County is predominantly an industrial County in the sense that over 85% of its gainfully occupied persons are engaged in industry and less than 15% in agriculture. Notwithstanding this fact, the County, in 1929, ranked first in the State from the standpoint of value of farm products and number of persons occupied in agriculture and furthermore the predominant types of farming in this County are those devoted to the production of products moving very largely direct to ultimate consumers. Reference to Exhibit 2 shows the predominant types of farming of Baltimore County to be Truck, Dairy and General Farming.

In our recapitulation of the changing industrial characteristics of Maryland, introduced at the beginning of this Chapter, item 5 stated:

> "Definite indications were developed in Part IV that the relative stability of Maryland's industry showed material gain as the industrial growth and transitions of the State's industries progressed."

This rather naturally raises the question as to whether the agricultural situation in Maryland has also experienced an improvement in stability as a result of the improved industrial stability. If such has been the case this would be another repercussion, in addition to the three enumerated, namely, an improvement in agricultural stability resulting from an improvement in the industrial stability.

While time has not permitted us to make as complete a study of the State's agricultural products as we have made of the industrial products, we are, it is believed, not without statistical indications that there has been an

improvement in the stability of Maryland's agriculture when it is considered and compared with the performance of agriculture in the Nation as a whole.

If the reader has followed our analysis of Maryland's industries presented in Part IV, he will recall our interpretation of the relatively constant rate of population increase in Maryland for each decade in the fifty year period from 1880 to 1930, as contrasted with a continuing decline in the national rate of population growth for the same period, to clearly indicate a more stable economic condition in Maryland than prevailed in the Nation as a whole. The reader will further remember, as we then proceeded with the analysis of Maryland's industries, that essentially all of the industry studies tended to confirm this conclusion and indicated that the industries of Maryland collectively showed greater stability throughout the period than those of the Nation as a whole.

Using a similar process of reasoning to that employed in the industry studies, there seems to be a reasonably definite indication that, during the same fifty year period, Maryland Agriculture collectively has maintained a more stable condition than that which prevailed in the Nation as a whole.

In this connection, the readers attention is directed to Exhibit 22 on the following page which graphically portrays national and Maryland trends and decadal rates of change in the number gainfully occupied in agriculture for the 1870 to 1930 period. It will be noted from the trend graphs that the number gainfully occupied in agriculture began to decline, in both Maryland and the United States in the 1910-'20 decade and continued through the 1920-'30 decade. But an examination of the decadal rates of change graphs in the 1920-'30 decade, shows that Maryland's performance was definitely better than that of the Nation, for in this decade Maryland's rate of decline was greatly reduced while the national rate of decline increased greatly.

As a matter of fact, if we carefully examine the rates of change graphs

EXHIBIT-22

ECONOMIC STUDIES OF MARYLAND, PART VI

# OCCUPIED IN AGRICULTURE

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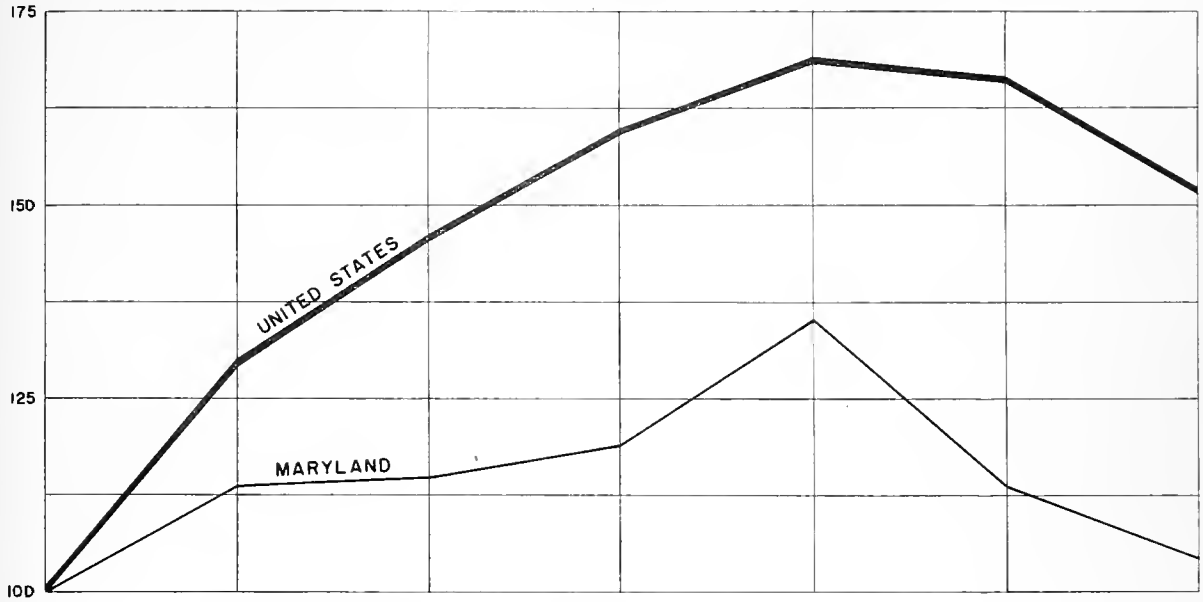
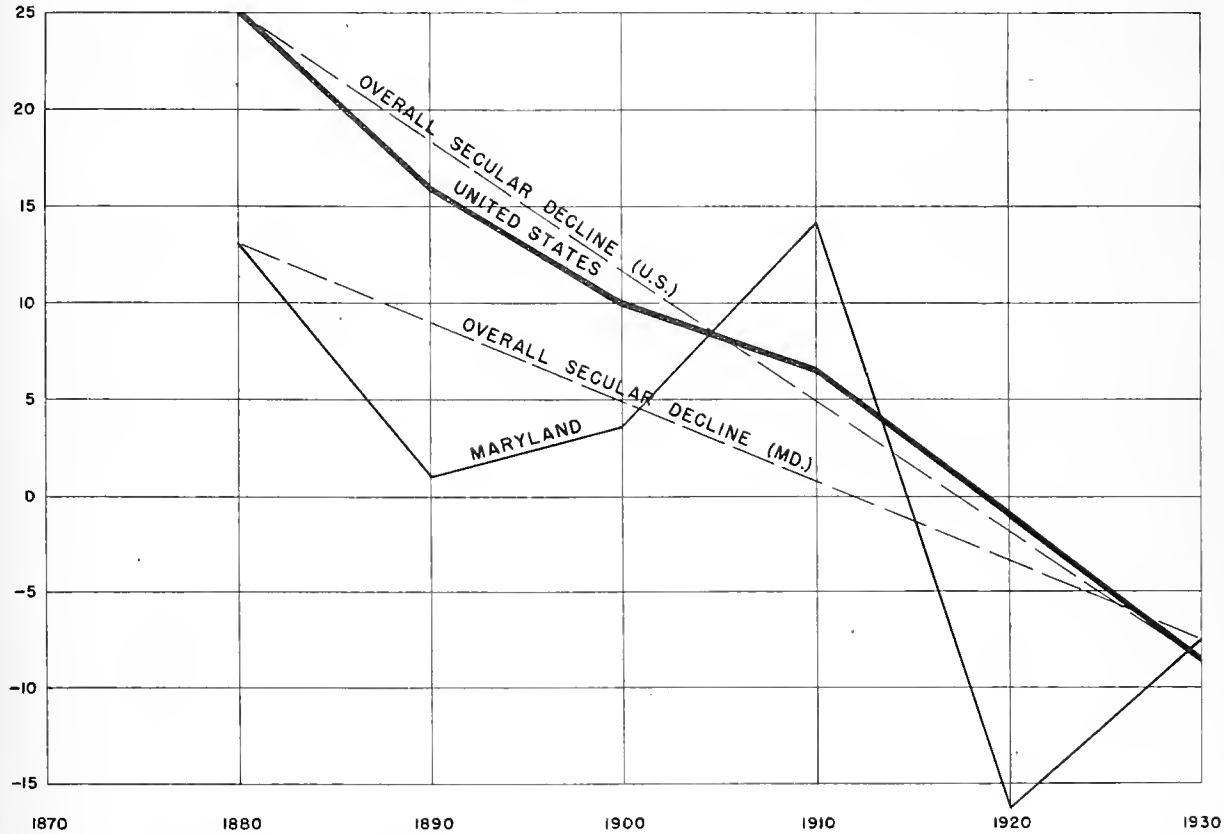
## TREND




## RATES OF CHANGE




RATES OF CHANGE FOR EACH DESIGNATED YEAR EQUAL GAINFULLY OCCUPIED INCREASE IN PRECEDING DECADE DIVIDED BY GAINFULLY OCCUPIED AT THE BEGINNING OF SUCH DECADE.

MARYLAND STATE PLANNING COMMISSION

of Exhibit 22, which relate to decadal rates of change in the number gainfully occupied in agriculture, for Maryland and the United States, throughout the entire 1870 to 1930 period, we will see a characteristic very similar to that shown by graphs presented in Exhibit 1 page 22, of Part IV, which related to the changing decadal rates of population growth in the State and in the Nation, for it will be noted that, in the 1880-'90 decade, the rate of increase both in population and in the number occupied in agriculture declined more in Maryland than they did in the Nation.

For the ensuing decades from 1890 to 1930, the overall decline in the number occupied in Agriculture was less precipitous in Maryland than in the Nation. At the end of the period, namely, the 1920-'30 decade, Maryland's decline was, as previously stated, less than that of the Nation. (see note of change graphs of Exhibit 22).

It would seem, therefore that we are justified in accepting what has been developed in the three preceding paragraphs as a general indication of the more stable character of Maryland's agriculture over the long time 1870 to 1930 period.

A further examination of the rates of change graphs of Exhibit 22, discloses wide fluctuations in decadal rates of change in the number of persons occupied in agriculture in Maryland in the 1900-'10 and 1910-'20 decades as contrasted with the relatively steady decline in the United States. These larger fluctuations in Maryland agricultural occupation, can, we believe, be definitely attributed to the unique economic structure of the State and certain observed changes relating to the industry of the State.

Maryland industry, and particularly manufacturing, is highly concentrated in the industrial sections and exceptionally so in Baltimore. A relatively small proportion of the State's manufacturing is located in agricultural sections and opportunities for industrial employment, particularly in manufacturing, are rather limited in these sections.

These characteristics of Maryland's economic structure, together with the fact that no part of the State's agricultural areas is more than a few hours travel from the industrial centers, has resulted in a constant migration of people, largely young people, from the agricultural to the industrial sections. The magnitude of this migration, and the extent to which it influenced the number occupied in agriculture, has varied greatly with the changing demand for workers in the industrial centers.

To illustrate this, the marked decadal rate of increase in agricultural occupation in the 1900-'10 decade over the preceding decade, (it rose from a 3.7% increase to a 14.2% increase) occurred in the same decade as the Baltimore Fire of 1904. When one considers that at that time Baltimore was largely a city of trade, and that the transition to manufacturing had only begun, and also that practically the entire business section of Baltimore was devastated by the fire, one can readily envisage this as resulting in an immediate loss of employment in Baltimore and a consequent exodus to agricultural communities of the State.

We may assume therefore, that the exceptional increase in the number occupied in agriculture in the 1900-'10 decade was in a very large measure attributable to the Baltimore fire and the justification of this assumption is strengthened when we consider that in this decade agriculture in Maryland was still expanding and agricultural employment opportunities were increasing.

With the rebuilding of Baltimore's business section accomplished, and normal operation of the service industries restored, Baltimore well embarked on its transition to a manufacturing city. Manufacturing was greatly stimulated by the World War demand for manufactures in the 1910-'20 decade producing reasons for a great exodus from farms to Baltimore and therefore the resultant precipitous decline in the number occupied in agriculture in this decade is quite apparent.

It is of interest to note that the decadal rate of change in the number

occupied in agriculture showed a marked increase in 1900-'10 decade and, in the 1920-'30 decade showed definite improvement, as indicated by a much smaller decline than that which occurred in the 1910-'20 decade. Both of these changes indicated improved conditions in Maryland's agriculture, but the reasons for the changes were entirely different.

In the 1900-'10 decade, as previously explained, the change was due to the exodus of workers from Baltimore to agricultural sections following the Baltimore fire at a time when there was also an increasing demand for agricultural labor.

In the 1920-'30 decade the demand for agricultural labor was generally declining and the demand for industrial workers was increasing at probably the highest rate that had ever obtained in the State. There was therefore, no industrial unemployment, in this decade, forcing migration of workers back to farms.

There seems to be only one explanation of the marked improvement in agricultural occupation which was indicated by the greatly decreased decadal rate of decline in the 1920-'30 decade and that is, that due to the industrial expansion in the State, there was a repercussion on agriculture resulting in a greatly increased demand for farm products and particularly for the type of products which move largely direct to ultimate consumers, such as the products of Dairy, Truck, Poultry and Fruit farming. That is to say, in the 1920-'30 decade the State's agriculture seemed to be profiting by the industrial expansion and a resultant increase in local consumer demand for certain farm products.

In no sense are we taking a position that these were the only influences responsible for the fluctuating character of the decadal rates of change in agricultural occupation in Maryland, but we do unhesitatingly say that they were major contributing influences, and we feel further, that the analysis of the rates of change graphs, which we have made, very definitely indicates

that Maryland's agriculture, has, throughout the period, enjoyed a better stability than that of the Nation as a whole.

As in the case of our industry studies, it must be recognized that what we have presented in this chapter regarding the stability of Maryland's agriculture is not an evidence of stability, but only an indication of stability.

In the industry studies, having first determined a similar indication of industrial stability, we proceeded to confirm this by a detailed study defining those industries of the State which were gaining competitive position in their several markets and those industries which were losing competitive position. The net result of this examination was that the gains more than compensated for the losses and that collectively the stability of Maryland's industry was improving.

It is contemplated, in our agricultural studies, to similarly determine those products which are gaining and those which are losing competitive position in their several markets.

When, and only when this is done, can we confirm the indication of improved stability of agriculture in the State, for it will be evident that if this indication is confirmed, it must be, as was the case in the industrial situation, because the gains in competitive position of certain products more than compensated for losses of other products.

EXHIBIT 23

ECONOMIC STUDIES OF MARYLAND - PART VI

ECONOMIC SECTIONS OF MARYLAND

KEY SHEET

Urban Industrial Sections:

Baltimore

Cumberland

Hagerstown

Rural Industrial Sections:

| Section | Counties |
|---|---|
| I - 2 | Baltimore |
| I - 3 | Anne Arundel<br>Prince George's |
| H - 5 | Allegany<br>Garrett |

Rural Agricultural Sections:

| Section | Counties |
|---|---|
| I o 1 | Carroll<br>Frederick<br>Howard<br>Montgomery<br>Washington |
| I o 2 | Cecil<br>Harford |
| I o 8 | Caroline<br>Kent<br>Queen Anne's<br>Talbot |
| I o 9 | Dorchester<br>Wicomico |
| I o 11 | Calvert<br>Charles<br>St. Mary's<br>Somerset<br>Worcester |